ENVIRONMENTAL PERCEPTIONS, STRESS LEVELS, AND DEMOGRAPHIC CONDITIONS AFFECTING BLACK, HISPANIC, AND WHITE GRADUATE STUDENTS

By

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Life for me ain't been no crystal stair . . .
--Langston Hughes

To my mother, Lucille Crump Moore, who taught me two valuable lessons at a very young age . . . "the just shall live by faith" and "to those whom much is given, much is required". In all my ways, I have acknowledged Christ and he has directed my path.

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Abstract of Dissertation Presented to the Graduate School of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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The purpose of this study was to investigate differences in environmental perceptions, stress levels, and demographic conditions affecting black, Hispanic, and white graduate students. Also examined was the relationship between environmental perceptions and stress levels.

The population consisted of 181 black, 135 Hispanic, and 215 white full-time graduate students from the University of Florida and the University of South Florida. A Graduate Environment Survey, the Strain Questionnaire, and a demographic survey were mailed to 751 graduate students during spring, 1989.

ANOVAS with repeated measures for six scales of the environment variable revealed no significant differences in environmental perceptions among the ethnic groups. ANOVAS,

using four repeated measures, revealed significant differences in the stress levels of black and Hispanic graduate students with Hispanic students reporting significantly higher levels of stress than black graduate students. White students fell between black and Hispanic graduate students.

A Pearson correlation revealed no relationship between environmental perception scores and stress level scores for black and Hispanic graduate students. However, the relationship was significant for white graduate students at the University of Florida.

Regression analyses revealed that the type of graduate school (urban vs. college town) was significant for predicting the environmental perceptions of black graduate students, while age was significant for predicting the perceptions of Hispanic graduate students. Marital status, leisure, and type of graduate school were significant variables for predicting the stress levels of black graduate students; children were significant for predicting stress for Hispanic graduate students, while gender was significant in predicting stress for white graduate students.

This study is expected to add to the literature on graduate student perceptions and assist in the development of improved methods for detecting and characterizing environmental stressors.

CHAPTER I
INTRODUCTION

Statement of the Problem

Graduate education in the United States began in 1876 when the Johns Hopkins Graduate School was established. During its more than 100 years of existence, according to Hartnett and Katz (1977), graduate education in America has experienced good times and bad times. Until recent years, the times have been good. During the 1970s, graduate education passed the 100-year mark. At this point, it became clear that graduate institutions in the United States would have to change in order to avoid the risk of becoming antique and diminishing earlier educational accomplishments. Hartnett and Katz (1977) stated that during the 1970s graduate schools faced the problems of fewer students entering graduate school, less monetary support from governmental sources, a decline in the market for students with graduate degrees, and a significant decrease in the number of minority students completing graduate degree programs.

Reports concerning the problems of graduate education have received considerable attention within the American graduate school community (Breneman, 1975; Clark, 1976; Heiss, 1970). However, in spite of the increased attention

American graduate education has received in reports and research studies, the graduate student population has received little attention in these studies.

The graduate school experience for many students can best be characterized by the word "ambiguity" (Winston, 1973). Most graduate students bring to university environments certain middle-class values but lack the income to enjoy middle-class lifestyles. Graduate students are among the last persons in America to observe the Protestant ethic by foregoing income and status now in the hope of obtaining either or both later in life. Most graduate students are not prepared for the difficulties that lie ahead (Altbach, 1970).

In spite of gains made in graduate education in the past two decades, Hartnett and Katz (1977) noted that upon entry, graduate students still had far less information about their graduate departments than the departments had about the students. Many graduate students' experiences within departments are major sources of dissatisfaction. These departments had not lived up to the descriptions given by either college recruiters or the graduate school catalogs. Students indicated that more information about the graduate schools could have prevented them from making poor decisions and selecting unsuitable departments or areas of specialization. Though graduate departments select prospective students on specific quantitative and

qualitative criteria, graduate students' choices of institutions are often based on scant information about the important characteristics and features of the departments that subsequently are very important to their performance and satisfaction in graduate school.

Relationships with faculty members are regarded by most graduate students as the most important aspect of their graduate experience. Hartnett and Katz (1977), however, found that many graduate students reported relationships with faculty members as the single most disappointing aspect of their graduate experience. Academic and social interaction, thought to be crucial to the optimal development of productive scholars and scientists, were often neglected by graduate faculty and staff. Other conditions overlooked were the cultivation of the imaginative capacity, encouragement of cooperative inquiry, undue allegiance to specific "schools of thought," and the security needed for each graduate student's expectations to be realized.

Reasons cited for graduate schools' inability to develop productive scholars include the amount of concentrated time graduate schools spend on research and the lack of concern for student development among faculty members. Hartnett and Katz (1977) suggested that motivation and "time on tasks" were taken for granted with graduate students more than with undergraduates. Thus, there was no compelling need to pay much attention to the academic and social

development of graduate students. Whatever the reasons, the fact remains that little attention has been given to the processes by which graduate students become scholars and scientists or to the environmental factors which tend to help or hinder these processes.

While graduate students are generally regarded as hardy individuals not particularly vulnerable to stress-related emotional disorders, there is convincing evidence to the contrary. Halleck (1976) cited severe anxiety, role confusion, and alienation as problems for graduate students. Several of the reasons Halleck (1976) presented for graduate students' problems were insufficient feedback from professors regarding the students' work, insufficient opportunity for students to work and think with professors, lack of sufficient financial resources, and an environment which allowed too little time for working or socializing with fellow graduate students. Creager (1971) and Baird (1969) found competition among graduate students to be another major source of stress. The competitive factor is considered more closely related to graduate student tension than either financial or academic difficulties.

Although stress is viewed as an intrinsic part of being human, Gunnings (1982) characterized the stress experienced by students as being related to the interacting factors of their individual personalities and their environment. Therefore, each student's response to stress can be assessed

as a matter of the relationship between the intrinsic make-up of the student and that student's structural environment. Some sources of stress are intrinsic to individuals, others are found in the individual's structural environment. Stress often exists in the interaction between individual and environmental factors.

Lazarus and Opton (1966) discovered reaction patterns to the same stressors varied greatly from one individual to another. Patterns relating to stress were determined by the characteristics of the personality of each individual. Stressful situations were found to cause some students to perform feats otherwise unattainable. In the same stressful situations, however, other students became ineffective or immobilized. The individuality of stress manifests itself through a number of interrelated internal and external factors that make each person's response unique. Gunnings (1982) postulated that stress had ingredients of cultural, personal, and situational nature. The conclusion suggested that a mediation must take place between the personal variables of the students and the institution's variables if students' responses to stress are to be positive.

Married students engaged in graduate study are an important subset of the total graduate school population. However, the family unit is subjected to many stressors when either a husband or wife decides to enter graduate studies. These problems are multifaceted because the stressors facing

the student often affect the family as well (McLaughlin, 1985). The combination of financial constraints and academic factors become a significant source of tension for the family unit.

The demands of graduate school exceed those of a typical 8-hour work day (Halleck, 1976). Academic pressures often usurp time set aside for family activities and involvement. Lack of satisfaction with leisure pursuits has been cited as one of the major problems of both married and single graduate students (Clifford, 1977). It is becoming increasingly apparent that leisure patterns cannot be considered in isolation from the broader context of peoples lifestyles.

The presence of children seems to present additional pressures and stress for the married student. Thus, areas of concern for married students include time constraints, role conflict, restricted social life, a lack of leisure time and parenting responsibilities (Gruver & Labadie, 1975). Given the constraints of the academic environment on family life and leisure activities, efforts must be made to improve the quality of graduate schools in these important areas of concern.

Gunnings (1982) discovered minority students faced additional stressors in the form of pressures, and psycho-social adjustment problems which were manifested by feelings of guilt, ostracism, loneliness, and the

expectations of high levels of achievement while functioning in a "competitively alien environment." Information about minority student experiences became important in light of the findings by Allen (1981), who cited retention of minority students in graduate and professional schools as one of the most pressing concerns of college educators and administrators in the 1980s. During this decade, enrollment data reveal that four of every five minority students are enrolled in traditionally white colleges and universities. At first glance, this dramatic reversal in minority student enrollment was a reason for celebration. Garza and Nelson (1973), Hunt (1975), and Olivar (1982), however, found that it had become increasingly difficult for minority students to adjust to campus life at traditionally white colleges and universities. Parker and Scott (1985) indicated that ethnically different students have not felt welcome on white campuses. Instead, minority students felt like unwanted guests in a strange land.

In a preliminary report Allen (1981) summarized the responses of over 400 black graduate and professional students on majority white campuses. These findings suggested that the situation for black students in graduate and higher education were less than optimal. On measures of academic performance, social adjustment, campus race relations, and interactions with faculty, student responses were ambivalent and usually negative. Allen (1981)

confirmed that one-third to one-half of all black students studying at predominately white colleges left without receiving degrees.

Blackwell (1975) reported that approximately 48,000 doctor of philosophy degrees were produced each year, yet there was a critical shortage of blacks with doctorates. In 1973, only 976 blacks received doctorates out of a total of 33,727 awarded that year. This included 56 non-U.S. citizen immigrants and 160 non-U.S. citizens. This extreme under-representation of blacks existed in spite of increasing efforts to assist more blacks in earning doctorates. By comparison, Pruitt and Isaac (1985) reported minorities with the best chance of completing graduate study were either graduates of affluent, selective institutions or graduates of a group of traditionally successful black institutions. Some of the black institutions cited in this study for their superior record in producing black graduate students were Howard University, Southern University, Florida A&M University, Tuskegee Institute, Hampton Institute, Virginia State University, and North Carolina Central University.

Gibbs (1975) found that black students on predominately white campuses experienced a wider range of problems than their white counterparts. Farver, Sedlacek and Brooks (1975) also learned black students suffered more difficulties adjusting to their predominately all-white campuses than non-black students. Patterson, Sedlacek and

Perry (1984), however, learned that the experiences of black students also were encountered by members of other minority groups. It was concluded that not enough research had been conducted to compare the experiences and perceptions of black students to other minority students.

Hispanic students and faculty have been grossly under-represented in American higher education. Cortese and Duncan (1982), and Schlef (1983) attributed the under-representation of Hispanic students and faculty to social and institutional discriminatory practices. Other authors indicated that the overall "lower quality of life" experienced by Hispanic students was evidenced by their high attrition rate, (Higher Education Institute, 1982; Ramirez & Soriano, 1981), their difficulties in coping with mental stress (Mendoza, 1983), and their perceptions of more campus problems than non-Hispanic students (Jacobs, 1981).

Minatoya and Sedlacek (1984) indicated that studies of student perceptions have usually focused on the observations and attitudes of black or white students. Hispanics, however, now represent the second largest minority group in the United States and are currently found in larger numbers than blacks on many college campuses. It has become a challenge of the 1980s to prepare black, Hispanic, and white students to function in diverse college and university environments. It is imperative, therefore, to gain information on how

these different groups perceive their graduate school environments in order to better meet this challenge.

Chickering (1969) suggested a major growth need for all college students involved the development of an increased tolerance and respect for individuals with different backgrounds, habits, and values. Amir (1969) stated that to produce positive change between racial groups, the interaction must occur under relatively favorable conditions; otherwise the results would be negative. Student affairs professionals in higher education, practitioners, and faculty have not served as efficient architects in designing campus environments in the past. Both undergraduate and graduate environments should be designed to ensure respect for the human dignity of all students while allowing them to flourish and grow. Such environments would be stimulating, nurturing and challenging (Hughes, 1988). These environments would take into consideration the experiences of students while attending classes or student needs for exploring outside activities. While student affairs divisions typically devote their greatest resources and interests to undergraduate students, Hughes (1988) indicated that graduate students deserve the same amount of effort and concern.

Hartnett and Katz (1977) conducted a review of the literature concerning the basic format of graduate education over the past three decades. The study gathered information

about each graduate school's physical facilities and social environments. Ironically, the very institution charged with the major responsibility for opening new systems and expanding known ones did not present itself as a viable model. While the trend toward racial and cultural diversity and reallocation of resources continued, those seeking accurate data on college characteristics were still handicapped by a dearth of inaccurate comparative data. Entering graduate students still had no reliable source of information available for assessing the perceptions of former students toward particular graduate schools or departments. Each succeeding graduate class was expected to encounter the same problems and environmental stressors as the generation which it followed.

Purpose of the Study

The purpose of this study was to investigate the environmental perceptions, stress levels, and demographic conditions affecting black, Hispanic, and white graduate students. The demographic variables examined in this study were age, gender, marital status, number of semesters in graduate school and time spent on leisure activities. Specifically, the researcher examined the correlation between levels of stress and the environmental perceptions of a select group of black, Hispanic, and white students located in two different types of graduate school

environments (urban, regional, commuter-type college vs. small town, residential-type campus).

Need for the Study

Educational psychologists have made many attempts to measure environments. Henry Murray (1938) developed a theory of personality which stressed the need to view behavior as an outcome of the relationship between the people and their environment. Murray's need-press theory corrected an earlier omission in psychological theory which had not included both persons and their environment in a single theory. As an extension of this theory, Stern (1970) developed a model of environmental press which examined the capacity of the environment to enhance or block the personal development of college students. Stern's primary interest was in testing the need-press theoretical framework, rather than in attempting to determine the dimensions of the environmental climate as perceived by the students.

Pace (1963) and Astin and Holland (1961) developed instruments and questionnaires to measure students' impressions of their college environments. The theoretical concept in these two instruments varied somewhat. While Pace's work was a modification of Stern's environmental press, Astin and Holland came closer to measuring the organizational climate. All three investigators, however, focused

on undergraduate rather than graduate or professional schools in their studies.

Murray's (1938) need-press theory has been applied to the study of person-environment fit models in the work place and in educational institutions. The person-environment fit model predicts congruence between the students and the social environments in which they live and work. In these studies, efforts have been made to determine whether person-environment congruence yields satisfaction and success. Proponents of this model suggested that the difference between perceived and desired influence over one's work environment was an important determinant of motivation and performance. There still exists, however, a serious void in the literature which describes the perceptions and stressors of college students and their environments. There is a larger omission of literature describing graduate student stress and perceptions. While person-environment fit models have been used to explain a large number of factors affecting success in college, the models have been rarely examined. Rubio and Lubin (1986) suggested that research is needed to examine the models as they relate to college satisfaction.

Sandeen (1976) stated there was a need to know more about the "new students" in diverse student populations. Some of these groups included transfer students, international students, black and Hispanic students, and women.

Sandeen confirmed the diversity existing within student bodies and among different institutions, colleges, and universities. It would appear that institutions of higher education need to become more knowledgeable about these students' perceptions, problems, and attitudes toward their college environments if the situation is to improve.

Although most of the research on American college and university campuses has been conducted by graduate faculty or graduate assistants, there is a scarcity of research available regarding graduate students and their experiences while pursuing higher level degrees. Considering the fact that over 1,000,000 graduate students are enrolled in institutions of higher education in the United States, information concerning the ways in which graduate students perceive and evaluate the quality of their experiences within the graduate milieu is an educational imperative.

In addition to devoting attention and resources to the intellectual needs of graduate students, graduate faculty members must become aware of the developmental and situational ambiguities that exist in the lives of graduate students. Graduate students are compelled to resolve many school-related problems as they strive to establish themselves as adults. In most instances, graduate faculty members seem particularly oblivious to graduate students' problems and may, in some cases, contribute to these problems. A need exists, therefore, for communicating

information regarding the environmental needs and problems of graduate students to graduate faculty members.

There is a need to identify the stressors present within the graduate school environment and to determine how students experience and adjust to stressful situations. In light of the current data linking stress arousal to human disease and dysfunction, a need exists to examine the concept of stress as it applies to the physical and emotional health of college students (Lloyd, 1980). College professionals are in need of more reliable measures of the different types of stressors experienced by married graduate students in order to develop more effective methods of stress reduction in family life on campus. More time should be spent assessing the need for leisure time and meaningful participatory activities for all graduate students.

There is now a great deal of evidence to confirm increased minority attendance in institutions of higher education throughout the United States. Patterson, Sedlacek and Perry (1984) indicate, however, that little is known about the involvement or participation of ethnically different students within the university environment. The current problems concerning retention of minority students in both undergraduate and graduate institutions suggest that there is a need for increased knowledge about minority populations and their perceptions and adjustments to traditionally all white college campus environments.

While studies have been conducted concerning black undergraduate students attending white colleges and universities, little information is available regarding black graduate students' experiences on these campuses. The data that are available appear to contain only information on admission requirements or the number of degrees awarded. Carrington and Sedlacek (1977) found that although a number of institutions have made demonstrable efforts to recruit and enroll minority students, only half of the institutions surveyed had developed programs designed to assess or meet the environmental needs of these students after enrollment. Some researchers have conducted studies examining the special needs and concerns of Hispanic students (Perry & Tucker, 1981), and the perceptions of Hispanic students in a community college setting (de Armas & McDavis, 1981). Other studies have recommended that non-Hispanic student attitudes toward Hispanic students should be measured in an effort to help eliminate student prejudices. There have been, however, no studies conducted to measure Hispanic students' perceptions of their graduate school environments or to determine if stress is a major factor within these environments.

Perhaps the most important need of all graduate students, regardless of ethnic background or marital status, is the need for informed choice. The information about graduate programs should extend beyond the facts that are

presently available to entering graduate students. There is a need to include information about the social-psychological characteristics of graduate environments, the nature and quality of student relations with faculty, and the degree of concern and attention to student problems.

The need exists for colleges and graduate schools to discover better ways of characterizing their differences. The institutions should particularly identify those differences related to the programs proposed for students with emphases on how students of different ethnic and racial backgrounds have responded to these institutional differences. Moos (1979) stated that administrators, faculty, and the student services professionals of most universities have not addressed the need to describe themselves accurately to prospective students or to assess the possible effect of institutional diversity on the various ethnic students represented within their graduate school populations.

Significance of the Study

The data obtained through this study has implications for several areas of student personnel services in higher education. The environmental-press theory of personality developed by Murray (1938) was examined to determine the relationship between need and press as each related to the variables of student needs and the environmental press operating within the graduate school environments. The

results of the study will contribute to the student personnel literature presently available on environment-fit models, which are rarely examined at the graduate school level. This investigation also has added to the information on the adjustment of different ethnic groups to their urban and suburban graduate school environments.

The results of the study provide data needed to conduct further research in the study of other types of graduate school environment models as they relate to the stress, adjustment, satisfaction, retention, or academic success of culturally different graduate school students. Data gathered from the study has added to the body of literature presently available for identifying the sources, types, and levels of stress experienced within graduate school environments.

The results of the study will assist graduate schools in educating academic departments in the development of materials and catalogs that provide more accurate descriptions of the graduate school environments. Students can be educated to become more selective observers of graduate school departments and environment models in relation to the effects that different models have on successful academic and psycho-social development.

Definition of Terms

A number of terms will be used throughout this study which require further definition and elaboration. A working definition is presented for these terms in relation to specific meanings implied within the study.

Alienation refers to the conditions under which a certain person or group of persons become identified as outsiders. Alienation also is defined as a state of isolation or estrangement between one's self and the objective environment (Halleck, 1976).

Alien environment is an environment which has characteristics or allegiances that are foreign to a particular segment of the society. Such an environment is unfamiliar or indifferent to some of it's inhabitants; a system that consists of conditions that are unusual or unnatural for particular individuals or groups (Gunnings, 1982).

Ambiguity is a condition or circumstance that is susceptible to multiple interpretations, characterized by doubtful or uncertain circumstances and lacking in clarity or meaning. Information may be hidden in difficult or mysterious forms, purposely intended to discourage individuals from gaining clearer understanding of important materials or situations (Winston, 1973).

Ambivalence refers to the existence of mutually conflicting feelings or thoughts (such as love and hate)

which cause conflicts in one's feelings toward other persons, ideas, or situations. A situation affecting an individual's ability to think rationally and make important decisions affecting their present and future status is an ambivalent state (Allen, 1981).

College adjustment is the relationship found in the degree of fit between the student and the academic and social characteristics of the college. A particular fit may produce either satisfaction or dissatisfaction with the college environment (Stupp, 1982).

College environment consists of the college community which is regarded as a system of pressures and policies. These policies are intended to influence the development of students toward attainment of institutional objectives. The environment refers also to the distinctive atmosphere of a college, and the differences between colleges that can be attributed to the ways in which systems are organized. There may exist, also, subtle differences in rules, classroom climates, patterns of personal and social activity, and other media through which the behavior of individual students is shaped (Stern, 1970).

Environmental stimuli is any behavior, event, or characteristic of an institution capable of changing a student's sensory input. The existence or occurrence of environmental stimuli can be confirmed by independent observation (Astin, 1968).

Life stages refers to the cumulative and continuous process of physical, psychological, and social development that can be divided into an orderly series of stages. Each stage is characterized by certain developmental tasks requiring the individual to alter present behavior and master new meanings in order to progress successfully to the next stage. The college experience normally includes the stages of sorting out and establishing one's own identity from among a confusing array of possible roles (Erikson, 1968).

Minority group is the smaller in number of two groups forming a whole. A minority also may be defined as a group of persons numbering less than half of the total, such as a racial, religious, political or national group regarded as different from the larger group of which it is an integral part (Morris, 1980).

Need-Press Environment consists of needs and presses that are complimentary but not necessarily reciprocal concepts. While need involves the maximization of opportunities for establishing close, reciprocal associations with others, the press may be a place in which such opportunities are optimized. Environmental press, like need, may be defined as a taxonomic classification of characteristic behaviors manifested by aggregates of individuals in their mutual interpersonal transactions (Stern, 1970).

Ostracism is the temporary or permanent banishment, representing total exclusion from a group. Ostracism may involve ignoring or disgracing someone who makes attempts at interaction or integration by evoking feelings of loneliness and guilt. Ostracism can be the result of social adjustment problems faced by minority students because of their smaller numbers and higher visibility (Gunnings, 1982).

Perception refers to the enlightenment produced by careful observation or detection through the senses. Perception is the result of achieving understanding and seeing clearly by the use of one's own mind (Sandeen, 1976).

Person-environment fit is the theory that predicts congruence between the person and the social environment resulting in overall satisfaction for the individual. Person-environment fit predicts certain effects of interaction among personal characteristics, environmental stimuli, individual screening tendencies, and locus of control. The degree to which students integrate with other persons and situations within the college defines their environmental fit (Rubio & Lubin, 1986).

Psycho-social adjustment is the degree of adjustment and interaction between each individual's personality and their psychological and social environment. The type and level of adjustment is dependent upon each individual's sensibilities, perceptions, and responses to the environment (Gunnings, 1982).

Strain consists of the psychological or physical consequences associated with stress, often referred to as the stress response. In this study, strain is used to refer to physical, behavioral, or cognitive symptoms elicited by environmental demands upon the individual (Lefebvre & Sandford, 1985).

Stress is a relationship between the person and the environment that is appraised by people as taxing or exceeding their resources, and endangering their well-being (Lazarus & Folkman, 1984, p. 19).

Stressors refer to those psycho-biological stimuli which work together with psycho-social factors to produce a stress response that is recognized by defined cognitive and physical changes within the individual (Selye, 1980).

Organization of the Study

The remainder of this study is organized into four chapters. Chapter II contains a theoretical framework and review of the literature related to perceptions of graduate school environments and stress, specifically perceptions and problems experienced by black, Hispanic and white graduate students within their academic environments. Research questions, a description of the population and sample, instruments used, data collection procedures, analyses of the data, and the limitations of the study are described in Chapter III. The results and a discussion of the results of

this study are presented in Chapter IV. The conclusions, implications of the study, summary and recommendations for future research are discussed in Chapter V.

CHAPTER II
REVIEW OF THE LITERATURE

Chapter II includes a comprehensive overview of the characteristics of graduate students and presents theories and research literature important to the study of college and graduate school environments. A review of the current literature relevant to the perceptions, experiences, attitudes, and stresses of black, Hispanic, and white students within the college and graduate school environments also is included in this chapter.

Overview

American higher education includes a wide diversity of institutions. These institutions are community colleges, liberal arts colleges, technical institutes, black colleges, universities, professional schools, research institutes, and doctoral-granting comprehensive "multiversities." Students in these institutions represent all economic levels of society, a wide range of academic abilities and motivation, and a diversity of academic and professional goals (Sandeen, 1976). In the supreme court decision of 1954, the United States made the most dramatic commitment of any nation to the goal of providing equal access to higher education for

its citizens (Kauper, 1954). Institutional diversity is more than a cliché as attested to by the uneven distribution of funds and available resources among America's 2,200 colleges and universities. While the facts suggest that college environments differed greatly in quality and character, Astin (1968) indicated that college researchers experienced great difficulty in their attempts to define environmental differences among institutions of higher education. Researchers interested in the study of college environments have been handicapped by incomplete and inaccurate information needed to describe college characteristics and support research assumptions.

Theoretical Models

It has long been recognized that the college years are difficult ones for adolescents moving into adulthood. It was not until recently, however, that researchers began to recognize similar needs in older college and university students. According to Altbach (1970), graduate students remained in a stage of prolonged adolescence because of financial dependence and the inability to make long term plans or important decisions affecting their lives. The key assumption underlying this approach to the study of student behavior was that human development was viewed as a continuous, and cumulative process of physical, psychological, and social growth divided into an orderly series of "life

stages." Williamson (1961) first offered a theory of human development for postsecondary settings which set forth the idea that everyone involved could master increasingly complex developmental tasks, achieve self-direction, and become independent individuals. A number of theoretical constructs have been advanced to describe both developmental characteristics common to all persons and tasks or behaviors that must be mastered before one can successfully advance to the next stage of development. Of particular importance in the study of the developmental characteristics of college students were the psycho-social learning theories of Erikson (1968) and Chickering (1969). These theories have remained valuable tools in the study of graduate students and their adjustments to various learning environments.

Erikson (1968) theorized that human development could be characterized by eight stages. However, only stages five through eight specifically apply to college and university age students. Stage five is Identity vs. Confusion (12-18 years), stage six is Intimacy vs. Isolation (young adult), stage seven is Generativity vs. Stagnation (middle-aged adult), and stage eight is Ego Integrity vs. Despair (older years).

For most students, the college experience occurs between 17 and 25, a period that includes stages five and six. Erikson (1968) theorized that during these stages adolescents face the tasks of sorting out and establishing

identities from among a confusing array of roles as sons or daughters, friends, students, and sexual beings. Through interaction and identification with significant others of society, individuals learn the importance of taking into account how others think, feel, and act. One's self-concept emerges from this interaction between self and others.

Depending on the nature of the interaction, the resulting self-concept can be either positive or negative. Goodman (1972) concluded that an individual who received support and affirmation from the environment was likely to develop a strong and healthy self-concept. If, on the other hand, an individual received only ridicule and criticism from the environment, it was likely that the individual would have great difficulty establishing and maintaining a healthy self-concept.

The self-concept of the individual was found to be self-perpetuating and self-fulfilling. Individuals who perceived themselves as failures and who were perceived and treated by others as failures were more likely to unconsciously sabotage certain endeavors in order to maintain that image. Likewise, individuals who perceived themselves as capable and were treated that way by others were likely to work even harder to maintain that image (Craig, 1976). Individuals who viewed themselves as capable also were better prepared to mature and adapt to new situations than those persons who perceived themselves as failures. The

theory of self-concept was found to be important to student attitudes, perceptions, and adjustment within the graduate environment.

While the development of the self-concept continues throughout life, the real crisis in identity occurs in adolescence. Goodman (1972) contended that the emergence of a strong, healthy, and independent self-concept allowed the individual to move ahead and face the challenges of the adult world with a reasonable chance of success. If for any reason, however, an individual was unable to put all the pieces of the personality together, or if one is convinced of an inability to fulfill adequately the roles projected as desirable by the family or the community, that person may withdraw or turn toward negative group identity. Such an individual may continue to have a fragmented personality and remain unprepared to face the challenges of the college experience (Kinkaid, 1969). Personality problems can introduce additional stressors in the lives of graduate students which prevent them from making satisfactory adjustments to the academic program or the social life on campus.

Chickering (1969) considered the importance of a healthy self-concept in the development of a set of criteria for examining tasks that must be completed by all college students. The seven developmental tasks or "vectors" proposed by Chickering were greatly influenced by Erikson's stages of identity and intimacy. The seven "vectors" are

(a) achieving competence, (b) managing emotions, (c) becoming autonomous, (d) establishing an identity, (e) freeing interpersonal relationships, (f) clarifying purposes and, (g) developing integrity. A normal progression suggests that mastery of each of these identity tasks is essential before one can successfully move to the next.

While Chickering's structure included a broad range of tasks, the mastery of a positive self-concept was considered by Bradley and Stewart (1982) to be basic to healthy student development. Any college experience that hinders the development of a positive self-concept is viewed as a potential stumbling block to successfully completing one's college education. Successful mastery of the developmental tasks is difficult for many individuals. Bradley and Stewart (1982) contended that mastery of these tasks were even more difficult for those who were members of minority groups. Minority group status was defined as either race, color, culture, or physical handicap. Minority students face a myriad of problems as they seek to develop self-concepts.

Many minority students come to college campuses already caught up in a complex pattern of depersonalization, poor self-concept, role confusion, and conflicts in values and goals (Bradley & Stewart, 1982). Student personnel workers and counselors find that these minority students are not ready to deal with the developmental tasks they must face during the college years. Erikson's theory suggested that

individuals who experienced role confusion would find it difficult to move on and successfully master the tasks associated with intimacy versus isolation. If a student lacks a positive self-concept, according to Chickering's theory the student would find it difficult to cope with the remaining vectors associated with the college experience. Recognition of the developmental perspective facing many students could make the difference between success and failure in college (Bradley & Stewart, 1982).

Another means of determining the successful interaction between the student and the college is the use of person-environment fit theory. According to Witt and Handal (1984), person-environment fit theory predicts that congruence between the person and the social environment results in satisfaction. Research results have been inconsistent and beset by problems of scale construction and mixing of theoretical orientations. Stern (1970) reported a positive relationship among congruence, satisfaction, and grade achievement. Other studies have reported that congruence is unrelated to achievement (Landis, 1964), or to satisfaction (Keith, 1965). This theory was used in an attempt to determine whether person-environment congruence was related to student attitudes, adjustment or stress within their graduate environment.

In a study by Witt and Handal (1984), it was noted that a need existed to address the issue of empirical congruence

between person and environment variables within a consistent theoretical framework. This study investigated whether person-environment congruence had a stronger relationship to satisfaction than either personality or environment alone. The results revealed that congruency is not a better predictor of satisfaction than environment or personality. Environmental perceptions had the strongest relationship to each component of satisfaction, with personality and congruency significant but weaker in their relationships to satisfaction. Evidence of these relationships was apparent in both analyses performed by Witt and Handal (1984).

Only one university was examined in the study by Witt and Handal (1984). It was suggested that future research should be conducted to determine whether similar patterns of relationships among person-environment congruence and components of satisfaction, in other university settings such as large versus small or, public versus private colleges or universities. A further suggestion was that such research be used to increase the level of satisfaction in one area or another. Such studies were considered particularly important to the retention of students since previous research had shown a strong relationship between student satisfaction-dissatisfaction and retention-dropout rates (Starr, Betz & Menne, 1972).

The person-environment interactional model seems to have considerable integrative significance for understanding

the potentially deleterious effects of life events. According to Rubio and Lubin (1986), the person-environment model was even more important when coupled with the mediating variables such as personality factors, coping skills, and locus of control. The study of such environmental factors as life events has been associated with depression, suicide, and other psychiatric disorders (Lloyd, 1980). More recently, researchers have come to appreciate the complexity of the person-environment interactional model as it relates to the development of mediating or buffer variables such as social support systems which help the individual adjust to the environment.

Rubio and Lubin (1986) confirmed that there is an interactional effect between person-environmental variables, the moderator variables of expectedness, desirability, and the degree of control an individual has over life events. Their study also revealed that a significant relationship existed among life events, depression, and general psychological stress. College students who sought help for depression and psychological distress reported significantly more life event changes immediately preceding the onset of stress. On the other hand, the study revealed that students who felt integrated within their college environments showed higher rates of disclosure to parents and friends of the same sex (Rubio & Lubin, 1986).

Tracey and Sherry (1984) found that person variables and environment variables were typically designed using separate conceptual schemes, and when they are examined together there is no conceptual overlap. The major finding of this study was that the person-environment fit variables were superior to either the person or the environment variables alone in relation to stress and strain in the college student subjects. The primary value of this study was the definition and examination of person-environment fit as it relates to college student distress. Explicit definitions of the fit are rare in the literature. The results of this study regarding the construct of actual discrepancy are valuable. Tracey and Sherry (1984) suggest that this study could be used to help student affairs professionals identify students who are most likely to experience distress.

A correlational survey was conducted by Stupp (1982) who studied the relationship between graduate student adjustment to the college environment, locus of control, and satisfaction with college. The first hypothesis, which predicted a relationship between adjustment as measured by person-environment fit and dissatisfaction, was supported. Student satisfaction or dissatisfaction were found to operate independently of the locus of control. According to Stupp (1982), graduate student adjustment was not affected by whether the student was internally or externally

motivated but was affected by the degree of fit between the student and aspects of the college environment.

Measurement Techniques

In 1974, the American College Testing Program compiled a two-volume bibliography of research which was edited by Lenning and Munday (1974a, 1974b). The bibliography listed more than 3,000 authors and research studies about college students' grades, persistence, indicators of success, and the personal characteristics associated with student success. The volumes did not, however, include studies of colleges and universities as organizations.

Another major compendium of research is a two-volume analytical by Feldman and Newcomb (1969a, 1969b). The studies in this review span a period of over 40 years from the mid 1920s to the mid 1960s. According to Pace (1979), this was by far the most comprehensive and scholarly assessment of the evidence that colleges have influenced the orientations and characteristics of students. The purpose of this analysis was to discover what impact colleges as organizations had on the development of students. The question asked by Feldman and Newcomb (1969) was "Under what conditions, have what kinds of students changed in what specific ways?" The conditions were very inclusive, ranging from the image of colleges, the characteristics of students, the nature of the colleges' environments, institutional

size, location, and homogeneity. These and other variables were found to interact in intricate ways.

Astin (1977) reported the results of several longitudinal studies in which college students were examined at certain intervals to determine any differences in attitudes, beliefs, self-concept, degree aspirations, and persistence in college and satisfaction with college. These studies, which involved over 200,000 students from several hundred colleges, showed many results that overlapped with earlier studies. Astin discovered, however, a wide variety of student characteristics and an even greater variety of college programs. The interaction between students and the environment and among students, faculty, and peers, were found to provide important stimuli for change in the lives of college students.

The College Characteristics Index (CCI) by Pace and Stern (1958) and the College and University Environment Scales (CUES) by Pace (1969) were originally designed to measure the perceptions of students who had become familiar with their college environments. Researchers soon learned, however, that these assessment techniques also were appropriate for measuring the expectations of new students who were unfamiliar with their college environments.

Richards and Seligman (1969) developed an instrument based on a modification of Astin and Holland's (1961)

Environmental Assessment Technique (EAT). The instrument sought to describe the graduate school environment in terms of certain environmental characteristics. Perceptions and expectations of graduate students were measured by Winston (1973) using the Graduate Environment Perception Scales (GEPS). The (GEPS) was a modification of the (CUES) items which were rewritten to draw attention away from the university as a whole and focus on individual departments at the graduate level.

The Graduate and Professional School Survey was designed by Baird (1974) as a part of a national study of graduate and professional school education. The analyses indicated that there were differences in the environments of graduate departments especially in the areas of teaching styles, program structure, and policies. The College and University Environment Scales (CUES), designed by Pace (1969), remains one of the most widely used instruments for measuring college environments. A detailed description of the (CUES) is provided in Chapter III.

Characteristics of College Environments

It is not sufficient to simply know that one college differs from the other, or that a college has a particular impact on a certain kind of student. Astin (1968) indicated that significant environmental effects must be accounted for by readily identifiable institutional characteristics in

order to arrive at the generalizations needed for improving environmental theories and formulating sound educational policy. Astin (1968) viewed the task of defining the college environment as one of identifying, measuring, and interpreting those institutional characteristics that were likely to have the greatest impact on student development.

The physical facilities are the most easily recognizable characteristic of most institutions. The physical environment of a college normally brings to mind classroom buildings, residence halls, laboratories, libraries, and other structures directly connected with student life or the academic programs of the institution. According to Astin (1968), college and university administrators have rarely viewed the physical facilities as potentially important areas of environmental stimuli. In a broader sense, the physical environment of institutions of higher education involve such factors as the way the facilities are arranged with respect to each other and their general environmental context. Astin (1968) suggested that administrators and planners pay more attention to other potentially important areas of the environment which included not only the institution's physical facilities, but the areas between and immediately surrounding each facility, the proximity of one facility to another, the college town, the larger community, and the climate of the college's geographic region.

Astin and Holland (1961) approached the study of institutional characteristics from the point of view that college environments included not only the physical facilities, but the personal characteristics of the students, the faculty, administrators, and staffs of the institutions. A major portion of students' environment was further determined by the characteristics of fellow students and was, therefore, viewed in terms of characteristics such as the average intelligence, achievement levels, aspirations, social interaction and the varying sizes of college student populations. Axlerod, Freedman, Hatch, Katz, and Sandford (1969) defined these factors as the "student culture" or the prime educational force at work in the college environment.

Astin (1968) concluded that the college environment was any characteristic of a college that constitutes a potential stimulus capable of changing a student's sensory input. Environmental influences were considered to be capable of having either a temporary effect on a student's experiences and behaviors or, involving changes which persisted in the student's social and intellectual life long after college was completed.

Comparison studies of the characteristics of graduate and professional school environments by Follett, Andberg, and Hendel (1982) have shown that the makeup of graduate programs and student populations were not as diverse as undergraduate school programs and student populations.

Graduate school students were first self-selected, then further identified by admissions committees on the basis of similar abilities, backgrounds, and career goals. While few studies have examined graduate level experiences or the teaching and learning environments of graduate institutions, Follett, Andberg, and Hendel (1982) found that graduate schools tended to be more structured, and graduate students were found to have more frequent contact with the same peer group. Intellectual and social development were the main emphases of the undergraduate environment, while the graduate level environment was expected to provide a site where commitment to a particular field of study and the development of professionalism was expected to take place.

Baird (1976) indicated that there were many differences in the teaching and learning environments of graduate schools. When graduate school environments of similar size and academic emphases were compared, wide disparities were found among the teaching styles of professors, the formal degree requirements, program structure, styles of administration, and the views of program advisors. Although the greatest differences were found in non-personal areas of the programs, the areas of professor-student relationships, and student-student relationships, both academic and personal, differed from one department to another and from one institution to another.

The characteristics and emphases of graduate departments create unique environments for both graduate students and faculties according to Baird (1976). Each department had a particular main focus which seemed to permeate the general environment of the department by influencing administrative policy, student and faculty behavior, student and faculty attitudes, and the implementation of specific programs. Many differences were attributed to the variances in views held by faculties and administrators concerning the basic purposes of graduate education.

Graduate school environments tended to perpetuate certain characteristics by attracting a particular type of faculty and student population. Universities in which greater emphasis was placed on providing personalized approaches to teaching tended to attract faculty members and students who possessed this characteristic. Institutions that stressed preparation for research attracted faculty and students who were comfortable with research. It was through a process of mutual selection that graduate departments with particular purposes gradually became staffed by professors who agreed with the purposes of the departments. Students came to the departments because they were attracted to the purposes emphasized by department, faculties and staffs. Graduate departments also tended to select students whose personal characteristics and goals were compatible with departmental goals (Richards, Seligman & Jones, 1970). Some

students were found by Baird (1973) to perform better in large graduate schools while others were found to perform poorly. Some students seemed to relish competitive, high-pressure environments, while others performed better in more supportive, relaxed environments. Baird (1973) suggested that having the ability to describe a graduate institution's characteristics and particular demands could enable prospective graduate students to select environments which were compatible with their personal characteristics. A lack of accurate and readily available information about graduate school environments suggested that graduate students encountered academic and social problems in adjusting to some institutions.

College and University Environmental Scales

The original College and University Environmental Scales (CUES) was designed to help define the intellectual, social, and cultural atmosphere of the college as perceived by students. The first CUES was published by Pace in 1963. The original instrument consisted of 150 statements about college life described in terms of the facilities on campus, college rules and regulations, faculty, curricula, classroom instruction, and examinations. Student life on campus, extracurricular activities and other aspects of the institutional environment were included to help describe the

atmosphere and intellectual climate of the college as the students saw it.

The first edition of the CUES was developed jointly by Pace and Stern (1958) who selected items from the College Characteristics Index (CCI). The CCI paralleled the structure of the Stern Activities Index (SAI) which measured the personality needs of students. The CCI measured a set of corresponding environmental demands and conditions that would presumably be supportive of the personality needs of students.

After a series of studies involving the use of the CCI with students from 32 colleges and universities, Pace (1969) confirmed that the dimensions along which environments differed from one another were not the same as the dimensions along which individual students or entire student populations differed from each other. The CUES, therefore, provided a means of more accurately measuring college environments while excluding those dimensions pertaining to the individual students.

The authors of the CUES sought to eliminate many of the original 300 items included in the CCI because these items were considered to be nonfunctional or failed to differentiate between various college environments. Pace (1969) successfully demonstrated by factor analysis of responses from over 50 colleges and universities that the CUES was capable of discriminating between different college

environments. The CUES instrument was later organized into five scales consisting of 20 statements each and based on the principle that colleges and universities differ along five main dimensions: practicality, community, awareness, propriety, and scholarship.

The development of the CUES followed an opinion polling model rather than a personality or achievement test model (Pace, 1969). Responses to the CUES were not influenced by the personal characteristics of students. Correlations were made between the responses of individuals to their environments and characteristics measured by the Allport-Vernon-Linzey studies of values. In 245 studies, the CUES instrument has been correlated with the Omnibus Personality Inventory, the Heston Personality Inventory, the Activities Index, the ACE Psychological Examination, and the College Qualification Test Instrument. Most of the CUES correlations (about 86%) have fallen between .00 and ±.29. The correlations proved that information reported by students about their particular college environments was generally not related to the personal characteristics of the students.

Pace (1969) indicated that the second edition of the CUES had the same purpose as the first edition--to aid in defining the atmosphere or the intellectual-social-cultural climate of a college as seen by the students. The second edition of the CUES took into account the number of colleges and universities which had used the first edition. The

larger number of sample institutions made it possible to develop new norms based on a more representative number of students and colleges across the country. In this edition, the author provided a basis for future revisions and the introduction of 10 optional new items. The ability to change the content periodically gave the questionnaire a more balanced format and provided a system for keeping abreast of the changes and trends in higher education (Pace, 1969).

The scoring system for the second edition of the CUES was changed in order to reflect the changes in content and format of the new instrument. When the number of items for each scale was reduced from 30 to 20, there was also a change in the pattern for identifying items which were considered characteristic of the environment. According to Pace (1969), the changes were put into effect by assigning equal weight and consideration to all responses used to describe the characteristics of a particular college environment. Items were considered to be characteristic or not characteristic of the environment when there was agreement on the part of 66% or more of the students.

A scoring key for the CUES suggested positive or negative responses to the items in each scale. The students' individual responses were scored according to the suggested responses provided in the key for the questionnaire. After scoring each student's individual response to any item in

the five scales, responses for all students were grouped and tallied to identify those items on which 66% of the students agreed with the answers suggested by the scoring key.

The abbreviated graduate student adaptation of the CUES follows a Likert-type model which allows five possible responses ranging from one (not at all) to five (almost always). This scoring method is consistent with the method used for scoring the Strain Questionnaire used in this study to assess levels of stress experienced by graduate students.

The CUES scales have been used by hundreds of colleges and universities since 1963. During the 1967-1968 school year, four reports were prepared for the College Entrance Examination Board describing varied experiences in the use of the CUES. This instrument according to Pace (1969) still contained the original five scales with the addition of two subscales. The original scales (Practicality, Community, Propriety, Awareness, and Scholarship) were supplemented by two subscales entitled Campus Morale and Quality of Teaching and Faculty-Student Relationships.

The Practicality scale has been concerned with the extent to which some practical advantages could be derived from the college environment which were of benefit to either the academic, social or political life of the students. The Community scale provided information on the degree of friendliness, understanding, and warmth students might be

expected to receive from faculty members, staff, and fellow students within their college environments (Pace, 1969).

The scale on Awareness was structured to reveal the extent of concern the college had for the provision of opportunities which helped students grow creatively and develop positive self-concepts. The Propriety scale focused on the ability of the colleges to adhere to rules of democracy, fair-play, mutual concern and respect. The Scholarship scale was concerned with each institution's adherence to high academic standards which fostered a thirst for knowledge among students in the environment (Pace, 1969).

The items on the Practicality scale were designed to determine whether a college environment allowed students the freedom to develop enterprising and entrepreneurial skills. The scale also measured the extent to which students found that the college provided social and academic activities helped assure the future material benefits expected from a college education. Pace (1969) indicated that such a college would be as concerned with the students' preparation for future vocations or careers as it was with the academic interests and scholarly achievements of students. Pace (1969) contended that the Practicality scale helped to determine whether there was evidence of orderly supervision in college administration and in classroom instruction.

The Practicality scale according to Pace (1969) measured the extent to which a college environment provided personal benefits and prestige to students who learned to operate within an established system. The scale asked students to determine whether the college was one where knowing the right people, being in the right clubs, becoming a leader, and respecting one's superiors was considered essential to college success. These scales also were designed to assess whether the environment was characterized as structured, repressive, or responsive to the needs of students who pursued entrepreneurial activities. A college that met the practicality criteria was generally characterized by the students as an environment where fun and school spirit were integral parts of the college experience (Pace, 1969).

The items in the Community scale described a friendly, cohesive, group-oriented campus. Students were asked to determine the extent to which their college campuses possessed a community-type environment. This scale measured the degree of concern students had for the welfare of all members of their group. The scale also was used to measure whether the feelings of group-loyalty was experienced by all students on the college campus. When student responses reported a congenial atmosphere, the campus was viewed as a community (Pace, 1969).

The type and amount of involvement faculty members had with students also was measured by the community scale. When the college possessed a congenial atmosphere, faculty members knew the students, were interested in student problems, and extended themselves in order to be helpful (Pace, 1969). In a community-type college environment, student life was characterized by sharing rather than by privacy or cool detachment.

The items in the Awareness scale were designed to measure the amount of emphasis that the college placed on the personal development of each student. Pace (1969) indicated that the college environment could be helpful to the student by providing an atmosphere conducive to increasing self understanding, reflectiveness, and a sense of identity. The Awareness scale measured the extent to which the college was concerned with each student's search for personal meaning. A college that was aware of students' personal needs was identified by the inclusion of a wide range of opportunities for creative activities and positive personal experiences within the environment.

An environment that possessed awareness manifested concern for world events, the welfare of all mankind, and the conditions of man in the past, the present, and the future (Pace, 1969). Such an educational environment placed emphasis on developing students' interests in developing relationships with the larger society. Such environments

included varied aesthetic stimuli intended to expand each student's knowledge by encouraging questioning, dissent, and opportunities for personal expression.

The Awareness scale of the CUES questionnaire sought further to determine whether the environment provided the students with opportunities to develop political insights, and idealistic commitments. The items were constructed by Pace (1969) to assess each college's awareness of the many and varied needs of college students. This scale measured the extent to which colleges provided atmospheres in which these needs were being addressed.

The Propriety scale gave students an opportunity to evaluate the extent to which polite and considerate behavior set the tone for the campus. Pace (1969) indicated that the Propriety scale was one in which adherence to group standards of decorum were considered to be very important. In a college environment where propriety was evident, there was a definite absence of any demonstrative, assertive, or argumentative type activity. Self expression and entrepreneurial activities were discouraged in favor of group cohesiveness and conformity to established rules and standards. The development of self-identity, and self awareness was not considered a priority.

On campuses where extreme propriety existed, students were not encouraged to participate in activities which required risk-taking behaviors. The environment tended to

have interest in being protective and polite to the students rather than in encouraging intellectual stimulation, social expansion, or political awareness. Students were asked in this section of the scales to determine how close their college campuses adhered to mannerly, considerate, proper, and conventional behaviors Pace (1969).

Items in the Scholarship scale were used to describe an environment characterized by heavy emphases on the development of students' intellectual capacities. Students were asked to examine the type of scholastic discipline that existed within their college environments. When colleges were considered scholastically oriented, the primary environmental emphases were on competitively high academic and scholastic achievement. The social and cultural activities in the college's environment were planned to augment the academic program and foster the intellectual development of students both in and out of the classroom (Pace, 1969).

On scholastically-oriented campuses, the pursuit of knowledge and the investigation of scientific and philosophical theories was carried on rigorously and vigorously in all facets of the colleges' environments (Pace, 1969). The students on each college campus were encouraged to place high value on scholarship and to engage in intellectual speculation. Students also were encouraged to develop interests in ideas, and a love of knowledge for its own sake. Intellectual discipline and academic competitiveness

were regarded highly. On campuses where primary emphases were placed on scholarship, the instructors stressed high academic standards in their classrooms and challenged their students to set and achieve the highest academic goals possible.

The items in the Campus Morale subscale were developed to describe college environments that were cognizant and accepting of the social norms established by the academic community. Pace (1969) indicated such an environment was characterized by a sense of cohesiveness and friendliness in all aspects of college life. Respondents were requested to examine the college in an effort to determine how well students fit and assimilated into the campus environment.

Freedom of expression was highly valued in college environments that fostered high campus morale. Students also were expected to display commitment to intellectual pursuits. Pace (1969) intended that this subscale be used to define environments in which intellectual goals were exemplified and widely shared by all members of the academic community. This subscale was considered important to the measurement of the personal and social atmosphere considered necessary to campus life. On campuses with high morale, the student, faculty, and staff relationships were cordial, yet supportive.

The items in the Quality of Teaching and Faculty-Student Relationships subscale characterized the college

environment as one where the members of the faculty were perceived to be both scholarly and humane in relationships with students. Pace (1969) sought to identify college atmospheres which maintained high academic standards while still emphasizing the need for each department to adapt to the needs of the students. This subscale also was designed to measure the amount of flexibility exhibited in student-faculty relationships. The quality of teaching and faculty-student relationships were considered positive when the instructional aspects of the college's programs were infused with warmth and interest. Faculty and staffs were expected to display genuine helpfulness toward the students.

The validity of the CUES was further determined by computing correlations between CUES scores and the various characteristics of students and institutions. A national baseline of 100 institutions was used as a basis for comparison. The norm group was selected from several representative geographic locations within the United States (northeast, south, midwest, mountain, and far west). Three levels of programs were taken into account. The programs were adapted from the United States Office of Education's classification of types II, III, and IV universities and colleges. The institutions in each category were representative of colleges and universities which offer degrees ranging from the Bachelor of Arts to the Doctor of

Philosophy and professional degrees. The group consisted of both private and public institutions of higher education.

The validity data for the CUES consisted of correlations that were found to be significant at the .01 level of confidence. According to Pace (1969), the CUES scores were correlated to indicators of scholastic aptitude. Correlations between the CUES and the input factor labeled "intellectuality" by Astin (1965) was used to validate the Scholastic scale of the instrument. A significant positive correlation was found between students' academic achievements and the Scholarship scale of the CUES. According to Pace (1969), a similar positive relationship was found with Awareness while a negative relationship was found between the academic measures and the Practicality scale. The students' mathematics scores and scientific interest scores on the SAT were used to further define intellectuality. The mathematics and science scores correlated positively with the Scholarship scale and negatively with the Practicality and Propriety scales.

A variety of student attitudes and activities was associated with the CUES scale scores. Pace (1969) concluded that the proportion of students regarding themselves as unconventional was positively related to the Practicality, Community, and Propriety scales. The proportion of students who regarded themselves as religious was positively correlated to the Practicality, Community, and Propriety

scales. Regular church attendance was also positively related to the Community and Awareness scales. Students who reported no religious preferences were found in greater proportions in environments with high scores on the Awareness and Scholarship scales.

The proportion of students reporting prior experience in carrying out a research project was positively related to the Scholarship scale and negatively related to the Practicality scale (Pace, 1969). Participation in extracurricular activities was found to correlate highly with the Community scale while active participation in civil rights causes was positively correlated with Scholarship, Awareness, and Community, but negatively correlated with the Practicality scale.

Reported correlations of CUES scores with valid instruments and with institutional variables provided valuable and measurable information about both the college students and the colleges and universities in the sample. It was learned that the characteristics of students were generally congruent with the characteristics of the schools attended, although student characteristics did not account for all of the environmental differences between colleges. Pace (1969) found that relationships existed between the aesthetic interests of students and the Awareness scale, and between the religious interests of the students and the Propriety

and Community scales. The correlations on these behaviors ranged from .40 to .60 and above.

The overall network of correlations between CUES scores and other data was characterized as supportive of the associations expected. The conclusion made by Pace (1969) was that the campus atmosphere, as measured by the CUES, was supported by a great deal of concurrent validity. A copy of the CUES is in Appendix B.

Reliability data for the CUES were obtained from a national reference group of 100 colleges and universities. These data were based on the collective perceptions of groups of college students who were considered qualified reporters. In the original CUES manual published by Pace (1963), the norm group consisted of 48 colleges and universities. The norm group was later extended to include 100 public and private colleges and universities, teacher's colleges, engineering and science institutes, liberal arts colleges, denominational colleges and minority colleges from four geographic regions of the United States.

The scores for each college group were analyzed to determine how well the items discriminated between different areas of the college environment. The group scores also were used to examine the patterns that emerged in the distribution of scores on the five scales. In examining the scores of the original norm group of 48 schools, Pace (1963) reported the following scores: Practicality score (11),

Community score (11), Awareness score (12), Propriety score (10), and Scholarship score (11). When the scores of the larger norm group were examined in 1965, the following scores were reported: Practicality (9), Community (11), Awareness (10), Propriety (7), and Scholarship (9). Pace (1969) concluded that the consistently lower median scores were a result of distributions in which a large number of scores were skewed toward the lower end of the scales. A later analysis revealed that the CUES was considered to be less discriminating at the lower end of the scales than at the higher end (Pace, 1969).

In an effort to compensate for the differences found in the median scores of the norming groups, Pace (1969) developed the scoring method previously discussed. This method resulted in scores that were more normally distributed and adequately discriminated at both ends of the scales. Comparisons of item discrimination indexes revealed that the new scoring method was generally superior. Pace (1969) found that all items correlated positively with the scale scores of each group of respondents and no item-score correlation was less than .20.

According to Pace (1969), the reliability estimates of the second edition of the CUES was based on Cronbach's coefficient alpha. This formula took into account the variances on each item rather than the average or mean for each item. The items were scored in the same manner as the total scale

(+1, 0, or -1). Reliability scores ranged from .89 to .94 and provided evidence of a high degree of internal consistency for all the scales. Scores on the CUES have proven to be reliable measures of institutional differences.

Consistently reliable results were further assured when close attention was paid to sample size. Pace (1969) provided a general guide to be used in determining the appropriate sample size for college populations. The more reporters an institution had the more reliable the results, and the larger the institution the more subjects were needed to assure representativeness.

Pace (1969) found that test-retest comparisons over a two-year period of time, using comparable samples of qualified reporters produced highly consistent results. In 45 comparisons which were made among the scores of sample respondents, 90% of the respondents were found to differ by only three points or less on the five original environment scales. The scores of the sample were highly stable. Pace (1969) reported that a school's given score on a particular items in 1964 were found to match 90% of the time on the same items in 1966.

Characteristics of Graduate Students

The characteristics of graduate school students contribute significantly to the overall environmental atmosphere. According to Heiss (1970), knowledge of the

biographical characteristics of graduate students was crucial to understanding both the college environment and the challenges facing graduate schools in the United States. In the study conducted by Heiss (1970), it was learned that male students outnumbered female students in most graduate institutions. The biographical information revealed that the male graduate students outnumbered female students by a ratio of eight to two. The only field of study in which female students outnumbered male students was in French in which 53% of the students were female. Women were highly represented in English (35%) and in psychology (32%). The fields which had the lowest number of women graduate students in the 1970s were physics (3%), chemistry and philosophy (11%), and biochemistry (12%). Although women have made great strides in the 1980s, the graduate school rosters of the University of Florida and the University of South Florida (1987-88) still showed male graduate students outnumbering female graduate students by a ratio of two to one in many fields of study.

The average age of graduate students was an environmental factor considered important by Heiss (1970), who discovered marked differences in ages among doctoral graduate students. The ages of doctoral students ranged from 21 years of age to 51 years and older. About 20% of the graduate student respondents were older than members of the graduate faculty, while 34% were about the same or average

age of members of the graduate faculty. According to Heiss (1970), private institutions tended to attract the largest percentage of younger students (21 to 25 years old), while public institutions attracted only 24% of this younger age group. Public colleges and universities were found to enroll slightly more graduate students who were 36 years old and older than did private institutions.

In examining the marital status of graduate students as an environmental factor, Heiss (1970) concluded that single students tended to display more ease in making the commitment to advanced study. Respondents to the study revealed that divorce is a factor common to many graduate students. Divorce was less prevalent, however, among graduate students in the natural sciences than among graduate students in the humanities. The impact of marital responsibilities on graduate students revealed that the number of children that a graduate student has is probably the most important factor to compute in assessing the commitment a married student makes when deciding to pursue a graduate degree. The environment of a graduate school also is affected by each graduate student's desire to seek the doctoral degree and to achieve personal advancement and satisfaction. Estimates of the graduate students' self-worth and intellectual capacity also were involved in the decision to pursue graduate degrees. According to Heiss (1970), graduate students who held vague ideas about the commitment required for success

in doctoral programs generally found it difficult to make realistic estimates of the potential needed for success. Many students used avoidance tactics or pretend that the degree was not really important in order to put off testing all possible strengths and academic potential.

While college catalogs described an environment in which each doctoral student received the personal counsel and guidance needed to strengthen the student's sense of self worth and feelings of accomplishment, Heiss (1970) revealed that mentors were in short supply. The graduate students' high expectations were very rudely and painfully crushed when they learned that faculty contacts on campus were often limited to the classroom or formal appointments scheduled by a secretary. The graduate students in the Heiss study revealed that their greatest encouragement often came from peers. The advice and counsel of fellow graduate students was only helpful when fellow students were well informed and respected intellectually. When peer relationships failed, the students reported cases of withdrawal, unhappiness, and in some instances made decisions to leave the graduate school program (Heiss, 1970).

In a study by Nangle (1974) on the attitudes of students enrolled in graduate programs, it was learned that graduate students were generally satisfied with the length of their programs, the faculty, and the grading system. The same students, however, were least satisfied with the

frequency with which courses were offered, the tuition rates, and the lack of opportunity to evaluate their courses. About 67% of the graduate students who responded were only moderately satisfied with academic advising on their college campuses. Students were least satisfied with the availability of assistantships and the size of the stipends received for their work.

Nangle (1974) discovered several trends in graduate student attitudes and perceptions of the graduate school environment. Student characteristics were found to vary among the 3,106 graduate students living on campus, the 1,051 off-campus students, and the 88 part-time graduate students. Students working toward specific degrees tended to have lower levels of satisfaction with their graduate environments. Levels of satisfaction tended to increase as degree levels advanced. Doctoral students were somewhat more positive in their overall attitudes than students at the masters degree level. The level of satisfaction increased as cumulative hours increased. Nangle (1974) also found that graduate students living on campus manifested somewhat more positive attitudes toward the graduate school environment than off-campus or part-time graduate students.

A study of graduate students attending the University of California at Davis revealed four characteristics of great concern to the graduate students sampled. A total of 42% of the students were in need of short term financial

assistance (Winkworth, Seiker, Bailiff & Gaines, 1974). Another 36% of the Davis University graduate students were in need of either full-time or part-time employment. About 48% of the students also were concerned with finding jobs in their majors after graduation. About 33% of the graduate students sampled indicated a need for assistance in planning their academic programs. Winkworth, Seiker, Bailiff, and Gaines (1974) learned that the practical concern for jobs and finances were paramount in the minds of graduate students.

The most successful graduate students were found by (Feldman, 1973) to be single and divorced women who pursued their career goals with limited role conflict. Least successful were women attempting to combine identities as spouses and students. Whereas marriage was found to be an asset for men graduate students, married women were often expected to continue traditional household tasks when they became students.

Many professors were trained during an era when women stayed home and allowed their husbands to follow their academic pursuits. However, with increasing demands for equality, today's students (typically males) are asked to perform more household and family duties in addition to their academic requirements. The conflict of roles and the ever-present time constraints take their toll on family life and academic pursuits (Halleck, 1976).

Graduate Student Satisfaction

Difficulties with postgraduate studies do not fit neatly into categories. The first error, according to Rudd (1985), may involve the initial decision by some students to enter graduate school. The next problematic decision may be what institution to attend for postgraduate study. According to Rudd (1985), one should regard the selection of a graduate school as the first test of the student's ability to conduct research. The student who fails this test may still conduct research, but will do it poorly and perhaps at the wrong institution. Sometimes graduate departments may be so anxious to attract a potentially good student that an unrealistic picture is presented in order to lure the student into the program. Rudd (1985) concludes that it is difficult for a student to discover whether a particular university will offer the quality of supervision that both the student and the subject matter require.

Once students reach the graduate school campus, they must immediately become familiar with a barrage of rules, requirements, and new institutional facilities and policies. Baird (1974) found that graduate students had to make decisions related to the university or department even before participating in the admissions process. The definitions of each student's progress, status, and available areas of study were pre-set by departmental policy. What a student learned in graduate school was dependent on such factors as

the helpfulness of the department, the quality of faculty advising, and the availability of scholarships and assistantships (Baird, 1974).

In recent years, there has been increased interest among researchers in the various aspects of graduate education. Field, Holley, and Armenakis (1974) reported that interest in graduate education has ranged from the prediction of student grades to the investigation of teacher effectiveness in the university classroom. A number of studies have been conducted on motivation and satisfaction across a wide spectrum of environments. The satisfaction of graduate students in graduate schools, however, has been ignored by most investigators. Pallone, Hurley, and Rickard (1971) were able to locate only one study which dealt with the satisfaction of graduate students with their graduate school environments.

Interviews with graduate students that were conducted by Hartnett and Katz (1977) revealed that the attention which graduate students received from their professors was far from adequate. Students reported not receiving sufficient feedback about their work, nor having sufficient opportunity for thinking and working together with faculty members. Instead, students viewed themselves as a cheap labor force to be used for research projects. Students were concerned that professors spent a minimal amount of time

helping them to acquire the skills needed to further their intellectual development.

Entering graduate students often faced drastic changes in lifestyles over a short period of time. Barnett (1982) indicated that a preponderance of past and present problems may have contributed to the cause of high attrition rates among first year graduate students. The frustrations of many first year students were cited by Barnett (1982) as one reason that a large percentage of first year graduate students scored in the critical area on the Holmes and Rahe Inventory of Critical Life Events. Major geographical relocations, changes in financial status, separation from family and friends, the establishment of new relationships, and the necessity of finding new jobs were found by Barnett (1982) to be typical of the environmental problems faced by new graduate students.

According to Barnett (1982), many students entered graduate programs during ongoing life transitions seeking false security in the closed environment of the college campus. Students who may have been considered outstanding as undergraduates soon learned that there were many other high achieving students in their graduate school classes. Doctoral students who entered graduate programs having held respectable positions within or outside of the university setting often became frustrated rather than gratified by the graduate student experience. The combination of multiple

changes and prolonged frustrations set the stage for stress-related physical and emotional illnesses.

Graduate institutions are concerned with the number of graduate students who either leave the university without completing the necessary requirements for the graduate degree or who fail to meet the academic requirements of the graduate institution (Rudd, 1985). Efforts to find simple, uncomplicated, explanations for graduate students' withdrawal or failure to complete post-graduate studies satisfactorily have alluded university administrators for many years. Rudd (1985), however, learned that most researchers who study graduate school phenomena are not aware of the roles that emotional or physical illness have in slowing down or impeding a student's progress. According to Rudd (1985) such illnesses have even impaired some students' wills to continue their graduate studies.

Rudd (1985) found that some graduate students had serious depressive illnesses or personality problems. Although the chain of causation in the area of student mental and emotional illness was not always clear, students have reported that the strain of postgraduate study either brought on or accentuated certain illnesses, while others suggested that mental and emotional problems actually caused failure. Rudd concluded that a more complex interactional effect may exist. The difficulties of postgraduate study may aggravate mental health problems which in turn tend to

make study more difficult and produce a downward spiral in student progress.

Through studies of the doctoral experience, Barnett (1982) concluded that an inordinate amount of emotional and physical problems existed among the research and teaching associates. The symptoms of students fell into categories that included skin irritations, headaches, gastronomical disorders, and irregularities of the reproductive organs that had not been experienced prior to the graduate programs. While examining the personal-social concerns of graduate students at the University of California at Davis, Winkworth, Seiker, Bailiff, and Gaines (1974) discovered that 77% of the students surveyed perceived the need for student health care to be a major concern of graduate students.

Halleck (1976) in looking at emotional problems in graduate students, suggested that it is possible to discover reasons for maladaptive behavior by examining the manner in which an individual seeks to satisfy two basic needs: the need for meaningful activity and the need for intimacy. Whether a graduate student's needs are gratified or frustrated depends on biological strengths or weaknesses, and the student's social environment while attending graduate school.

A common problem of many graduate students is establishing and maintaining a satisfactory relationship with

the department faculty. Winston (1976) found the student-faculty relationship to be ambiguous and one-sided. Graduate students were often subjected to arbitrary treatment with few means of resisting and surviving long enough to obtain the graduate degree. In fact, Winston (1976) contends that academic ability, as traditionally defined, is relatively less important than certain personality variables in determining which doctoral candidates will graduate.

Student-student relationships present even more ambiguity than student-faculty relationships. Baird (1969) revealed that competition for grades, assistantships, and the favor of professors was a major cause of stress in graduate students. Stress, rather than academic difficulty, was more often a cause for tension among graduate students. Stress, according to Baird (1969), can be low even when academic difficulty is high, provided that the conditions are unambiguous, and free of role conflicts.

Given the emphasis placed on the need for interactions between faculty members and graduate students it was suggested by Feldman (1973) that academic departments examine the relationships (or lack of them) between students and professors. Valdez (1982) suggested a "buddy system" approach in which incoming students could be paired with advanced graduate students. The proposal would also attempt to match students according to their marital status and the number of children in each graduate family. New students

expressed the need to have contact persons with whom they could explore housing arrangements, shopping, recreational facilities, child care, potential schools for their children and child care facilities. These problems were found to be of special concern to married graduate students.

Heiss (1970) found that an important source of discontent among doctoral students was the discrepancy that existed between expectations and actuality in doctoral programs. About 28% of the respondents in the Heiss study found the investment in graduate education to be greater than expected while only 12% found the investment to be less than expected. Many students, according to Heiss (1978), also indicated a favoritism for departments which displayed warmth rather than those that exhibited more stratified, formalized interrelationships. Heiss (1978) warned that if the student is valued, then there is a need to examine the process which leads some students to reject or become disillusioned with the educative process. Such an examination, Heiss suggested, might begin with the academic environment.

Rimmert, Lammert, and McClain (1982), in assessing the needs of graduate students, indicated several additional concerns of graduate students. Both married and single graduate students felt they could benefit from help with time management, and regularly scheduled leisure time activities. The students suggested interaction with their

peers through departmental parties as one form of leisure activity.

It has become increasingly apparent that leisure patterns and behaviors cannot be considered in isolation from the broader context of people's lifestyles. It was concluded that only by adopting a holistic approach to leisure could graduate students begin to articulate the complex links between leisure choices, opportunities, and the constraints of work or school activities (Bernard, 1988). In a study by Shaw (1985), there was considerable consensus with regard to the perceptual factors associated with leisure situations. The factors shown to best differentiate leisure from non-leisure were enjoyment, freedom of choice, relaxation, intrinsic motivation, and the lack of evaluation. One area of great concern for both married and single graduate students was the lack of free time and the inability to pursue recreational pursuits (McLaughlin, 1985).

Lewis (1983) found a further need for graduate student couples to be invited to orientation sessions in order to learn about the stressors associated with graduate study and the potential problems they could expect to encounter in their family situations. Emphasis was placed on the necessity for addressing student and family needs in order to promote maximum student satisfaction and achievement in graduate school.

Minority Student Environment

Racial patterns in higher education have changed significantly during the past 30 years. In 1950, over 90% of black students (approximately 100,000) were enrolled in traditionally black colleges and universities (Fleming, 1984). There were 4,000,000 students registered on American campuses in 1960 with a black enrollment of 200,000. Wilson (1982) reported that 130,000 black students attended traditionally black institutions in the 1960s. However, the period of the mid-sixties and early seventies represented a significant turning point in the number of blacks and other minority students being admitted to previously all white institutions of higher learning (Livingston & Stewart, 1987). The increase in minority group attendance at white colleges and universities during the 1970s brought a rich resource of cultural diversity to American higher education. Although total minority enrollment increased until the 1980s, Pruitt and Isaac (1985) discovered that by 1982, a decline in minority student enrollment was in progress. The decline in black enrollment was followed by a decline in Hispanic enrollment. Student personnel administrators realized that a diagnosis of student problems was needed in order to maintain minority enrollment. According to Minatoya and Sedlacek (1983), however, recognition and diagnosis of minority student problems must be accompanied by preventive techniques and interventions. Student affairs

officers have expended little effort toward providing programs that help students meet such problems as personal and career identity, academic development, and financial need.

Minatoya and Sedlacek (1983), found universities contained a number of heterogenous sub-groups who represented various proportions of the student body. When data were gathered from the general campus population and summarized, the picture that emerged was the "average" student which may or may not have represented the needs of members from particular minority group populations. Global needs assessments, according to Keller, Petrowski, and Sherry (1982), have often obscured the differential needs of the heterogenous sub-groups of minority students. Even when needs assessments were conducted for the greater group of minority students, programs developed for prototypical minority students have ignored the critical differences among the various minority subgroups.

Problems experienced by diverse student subgroups tended to increase and vary as ethnic and racial minority populations increased on college campuses (Gibbs, 1975). Research findings of Webster, Sedlacek, and Miyares (1979), indicated that blacks were more likely to view themselves as victims of racism and discrimination than were Asian, Hispanic, or white students. Murray and Pettibone (1972) suggested that Chicano students perceived the university milieu

as being less scholarly than did white students although Garza and Nelson (1973) reported an opposite finding.

In a study of student perceptions of the climate on campus, Martinez and Sedlacek (1982) found that black students thought other ethnic groups held more liberal views on a variety of social and political issues than white students. Martinez and Sedlacek (1982) learned that Hispanics and other minority groups held perceptions of the college climate somewhere between the views of blacks and whites. Webster, Sedlacek, and Miyares (1979) reported a number of problems that were unique to particular racial/cultural groups. It was noted that Asian-American, black, and Hispanic university students differed significantly in attitudes, perceptions, and experiences.

Research findings have suggested that a richer description of a student population could be extracted when each component group was examined as a separate component. Pruitt and Isaac (1985) learned that increased knowledge of various ethnic groups could assist in the recruitment and maintenance of students with different cultural, experiential, and cognitive backgrounds. As the demographic mix of the country changed, universities discovered the need to develop human resources from all sectors of the population.

A large number of qualified minority students have not been entering American graduate schools according to Pruitt and Isaac (1985). Some minority students have been

attracted to professional schools, while others, for financial, cultural, and personal reasons, have not considered graduate school to be a logical possibility. Although minority students have proved that they can and do perform well once admitted to graduate school, Pruitt and Isaac (1985) found that many minority students were being excluded from graduate school under the guise of objective standards such as the Graduate Record Exam or similar tests. Allen (1981) found that among black students who did enroll in white institutions, only 30% graduated compared to 70% of the black students who graduated from traditionally black institutions during the same time period.

Minatoya and Sedlacek (1983) decided to study the problems of minority students by assessing needs and academic expectations of sub-groups. The study revealed unique problems particular to some groups and other problems that were common to all students. For the purpose of analyses, Asian-Pacific Islanders were combined with Hispanics and denoted as non-black. While white students frequently mentioned the geographic location as a reason for selecting the university, minority students were more apt to cite overall academic quality as a major reason for selecting a particular institution.

In a study of differential needs and characteristics among racial/ethnic sub-groups of college students, Minatoya and Sedlacek (1983) discovered that blacks (65%) and whites

(52%) were more likely than non-black minority students to live in university housing. Non-white minority students (24%) expected to commute from 11 to 50 miles each way to the campus. Most of the Asian-American and Hispanic students (68%) did not expect to identify with any formal campus group during their first year in school, while white students were more likely than black students or other minorities to be identified with a fraternities or sororities.

About 50% of the black students in the population sampled by Minatoya and Sedlacek (1983) had grown up in cities. The reverse pattern existed when college students were asked if they had grown up in a suburb. While 77% of the white students and 68% of the Hispanic students and non-black minorities grew up in suburban areas, only 36% of black students had lived in suburban areas. Over 65% of the white students and 42% of the black students had lived in neighborhoods that matched their racial identities. More than 50% of the Asian-American and Hispanic students, however, had grown up in neighborhoods where members of their racial-ethnic group constituted less than 5% of the population (Minatoya & Sedlacek, 1983).

Black students and other minorities were more likely than white students to depend on part-time employment in order to stay in school. Minatoya and Sedalacek (1983) learned, that while black students cited making new

friendships as most crucial to their personal development, whites cited social life, dating and parties. Asian-American and Hispanic cited both social life and job experience as the principal contributor to their personal growth. Black students were more likely to see themselves as liberals when compared to whites and other minorities. All groups of students agreed that the principle reason for remaining in the university and completing the degree program was the preparation mandated by their chosen professions (Minatoya & Sedlacek, 1983).

Black and white students' responses tended to differ greatly when questioned about satisfaction with their graduate school environments in a survey conducted by Baird (1974). Blacks and whites differed more in opinions regarding formal degree requirements than any other area. Black students were least satisfied with the formalities and difficulties involved in meeting the steps toward a terminal degree. Blacks also were concerned, according to Baird, with the lack of opportunities for independent study, available teaching opportunities, and the relevance of the requirements to the actual job expected. Black and white graduate students differed on items which asked about such environmental resources as library facilities, the use of laboratories and computers and on policy issues such as academic advisement, awarding of assistantships, admissions and retention policies of the university (Baird, 1974).

Black graduate students in the study conducted by Baird (1974) reported more remote relations with professors, classes that were conducted too formally, and departments that were not friendly and accessible to the students. Baird (1974) concluded that the feelings of mistrust of professors on the part of black graduate students may have been due in part to the fact that most of the graduate professors were white. The experiences of black and white graduate students showed some areas of similarity, but for the most part, were quite different.

In a study comparing black, Hispanic, and Asian students, Patterson and Sedlacek (1979) concluded that the attitudes and perceptions of one ethnic group cannot be generalized to all minority groups. Webster and Sedlacek (1982) supported the position that students from different ethnic groups varied when attitudes of racial groups were compared regarding the use of university student unions. While Patterson, Sedlacek and Perry (1984) found differences among black and Hispanic students on two different college campuses, the differences between the two university environments were more closely related to the geographic locations of the schools (rural vs. urban), than in the racial identity of the groups surveyed. The only significant interracial interaction between the urban and rural institutions was that at both schools, Hispanics were more

likely than blacks to have dated someone from another racial group.

Minority students on predominately white campuses faced the additional pressures of dating problems, loneliness, and the need for interracial interaction (Gunnings, 1982). Minority students brought to predominately white colleges and universities specific mores and customs, as well as unique cultural and family influences. The context of the structured university environment in which minority students were required to live and function were found to effect the students' perceptions and methods of responding to stressful situations. Counselors must be aware of how college environments have affected the physiological and psycho-social lives of minority students, and how the environments influence the students' ability to cope with stress and the demands of the institution (Gunnings, 1982).

If campus interracial climates show the variation suggested by the literature, it may be important for student personnel workers to have information about the interracial climates on college campuses before proceeding with programs and services. Aside from programs aimed directly at interracial understanding, there may be implications for improved admissions and orientation programs, awareness of student financial problems, and more attention to academic and personal advising (Patterson, Sedlacek, & Perry, 1984).

Theoretical Models of Stress

"Stress is a scientific concept which has suffered from the mixed blessing of being too well known and too little understood" (Selye, 1980, p. 127). Stress also is described as the non-specific response of the body to any demand. In some respects, every response of the body to a demand is unique and specific. All stressors however, have one thing in common; they increase the demand for readjustment, for performance of adaptive functions which reestablish normalcy. Selye (1980) hypothesized the non-specific adaptive response to any situation was always the same, regardless of the stimulus. What varied was the degree of the response and the intensity of the demand for adjustment. Therefore, Selye (1980) found it immaterial to speculate on whether the "stressor" was pleasant or unpleasant.

Appley and Trumbull (1967a) defined stress as both a stimulus and a response phenomenon. As a stimulus, the term has been used to describe situations characterized as new, intense, rapidly changing, sudden or unexpected. When described as a response, stress often referred to bodily response in excess of "normal or usual" states of anxiety, tension, or upset. Any behavior which deviated momentarily or over time from what was considered normal for the individual or the reference group could be called a stressful situation according to this definition (Appley & Trumbull, 1967a).

Environmental stressors have been known to elicit complex patterns of responses and behaviors. Individuals sometimes engaged in "fight or flight" defensive patterns which were the most common reactions employed during early evolutionary history. Changes in physiological variables seemed to affect the biological ability to adapt and facilitate active coping behaviors. Other stressful situations, however, existed in which the environmental situations or the individual's perceived capacities did not permit active coping to occur. In such instances, the individual's response was reduced to submission or withdrawal (Field, McCabe & Schneiderman, 1985).

The development of western civilization has led to a change in the way individuals respond to stressors. Although the need still exists to cope actively in dealing with stressors, physical aggression is usually precluded by societal restraints. Individuals, however, have still been known to experience increases in nervous system activity, rapid heart rates, changes in the hormonal processes, and possible suppression of the immune system (Riley, 1981). When confrontational situations have occurred relatively infrequently, the impact upon physical health has likely been minimal. However, when individual have been engaged in defensive, conservative, or withdrawal responses continuously over an extended period of time, these behaviors have

sometimes led to chronic disease (Field, McCabe & Schneiderman, 1985).

A substantial body of research indicated that behavioral stressors can alter immune responses and thereby increase disease susceptibility. In general, the research has supported the view that exposure to intense, unavoidable stress has increased susceptibility to disease (Locke, 1982). In a study of 1,327 entering West Point Military Academy students, Karl, Evans, and Schneider (1979) screened the students for the presence of the Epstein-Barr virus antibody to infectious mononucleosis. They found that two-thirds of the entering cadets arrived immune to this infection. However, 20% of the susceptibles became infected each year; and of these, 25% contracted the disease. The risk factors were (a) having a high level of motivation for a military career, (b) doing relatively poor academically, and (c) having fathers perceived as being overachievers.

Recent links also have been established between styles of living, coping, and somatic illnesses. Friedman and Roseman (1974) argued that the primary cause of heart disease was a distinctive pattern they called "Type A" behavior. This behavior pattern involved constant pressured interactions with the environment and a compelling sense of time-urgency, aggressiveness, competitiveness, and generalized hostility. This pattern was seen as a mode of coping with societal values of achievement and the work ethic in

which such values have been internalized by the "Type A" person.

There seemed to be little question that stress arousal affected health and human functioning. Reviews by Selye (1976) and Everly, Feldman, and Weiss (1985) concluded that excessively intense, chronic, or frequent stress arousal constituted a pathogenic condition. Furthermore, excessive stress also had been linked to vocational dissatisfaction and disfunction by Cooper & Payne (1978). Given the data linking stress arousal to disease and dysfunction, it seems reasonable to conclude that the phenomenon of human stress continues to warrant systematic inquiry.

Stress and Environment Interaction

Lewin (1938) left a legacy to psychology by advancing both group and personality theories. Perhaps Lewin's most important contribution was the theory that behavior results from an interaction between an individual and that individual's cognitive structure of the environment. Lewin (1938) challenged researchers to carefully examine the relative contributions of both the person and the environment to gain a comprehensive understanding of behavior. Exclusive concentration on either factor could fail to grasp the dynamic quality of the interaction.

Current research tends to focus on aspects of either the person or the environment as potential causes of

targeted behaviors. Sub-areas within psychology are primarily interested in one or the other of these factors and rarely assess the relative conditions of both behaviors. For example, McGuire (1973) revealed social psychology concentrated on the impact of manipulating the environment to explain reliably observed effects of behavior. Only rarely did the individuals receive needed attention in these studies. Dissatisfaction with the progress of social psychology has recently been articulated through innovations and studies that offer the promise that persons and environment can be studied simultaneously (Keating, 1978).

Isolation of environmental factors as a sole cause of human stress (or any other personal response) is inadequate. Keating (1978) found stress and stress-related behavior to be the result of the person and that person's cognitive structure of the environment. Helson (1964) concentrated on the adaptation levels and the flexibility of human response to physical situations. Helson found that not only were people adaptable, but individual preferences for levels of stimulation varied greatly. A situation one person finds intolerable may be scarcely noticed by another. Lee (1966) learned how individuals developed cognitive strategies that helped them avoid or modify incoming stimuli from their environments.

In analyzing cross-situational consistency and personal responses, Moos (1969) analyzed observations of subjects'

actual overt behavior (smiling, talking, smoking) and self-ratings in the presence of actual situations. Moos found person-by-situation interaction variance was more important than the variance due to persons alone. In studies of intellectual and cognitive factors, there was some evidence for both longitudinal and cross-situational consistency. Endler (1976) suggested that one reason for greater similarity in longitudinal data than in cross-situational data was the greater opportunity to select the situations encountered throughout life.

Work and family situations sometimes produced distress even in individuals with effective stress coping skills in other areas. The organizational work structure according to Huse (1975) exerted its own set of unique forces on the individual. Organization have used these forces in an attempt to channel the individual's behavior toward certain goals. Huse (1975) found that physical escape or active manipulation of the environment offered some individuals a possible alternative to aversive environmental pressures.

A number of investigators have attempted to understand the role of the physical environment in life crises. Proshansky (1978) cited the physical environment as a direct cause of life crises. Changes in physical settings were found to cause sudden and intense stressful experiences for individuals and groups. Even those crises fostered by acute social, cultural and psychological events have been either

exacerbated or mitigated by the physical context in which the events have occurred. Life crises in turn have had implications for changes in perceptions, uses, and quality of existing environments (Proshansky, 1978).

Recent developments pertaining to urban stress, learned helplessness and life changes have caused researchers to pay attention to the implications of environmental controllability for human well-beings. Glass and Singer (1972) found the dimensions of perceived and actual control over the environment was essential to formulations of stress, stressful events and learned helplessness. Although researchers emphasized the relationship between environmental control and personal well-being, the concept of control has remained relatively undifferentiated with regard to such factors as control over physical versus control over social dimensions of the environment (Stokols, 1976).

Endler (1978) believed it was necessary to focus on persons' perceptions of situations and the meanings that these situations had for them. Endler urged researchers to isolate the types of situations that made individuals anxious and the cues in the environment which they perceived as stressful or threatening. Endler (1978) concluded that the message sent by the environment may not be the message that the individual received.

Measuring Stress

The Strain (Stress) Questionnaire (SQ) was developed by Lefebvre and Sandford (1984). The purpose of the (SQ) was to measure strain (stress) as a syndrome of physical, behavioral, and cognitive symptoms that were elicited, to varying degrees, by environmental demands upon the individual. Several self-report measures have been developed to assess various stress stimuli and the processes of transactions existing between persons and their environments (i.e., coping scales). The few instruments that purported to evaluate responses to stress either emphasized the somatic aspects of the responses or have been couched in the context of affective states such as depression or anxiety.

Despite extensive research in the area of stress, little effort had been expended toward the development of a self-report instrument that measured the everyday manifestations of the stress response (Selye, 1976). These manifestations include physical, behavioral, and cognitive signs. From this perspective, the assessment of all modalities of stress (here referred to as strain) response has been considered important to diagnosis and prescription. The Strain Questionnaire (SQ) appeared to be a valid and reliable measure of strain in both cross-sectional and longitudinal studies. It has shown potential as a screening tool in identifying persons most likely to benefit from specific stress management techniques (Lefebvre & Sandford, 1985).

An item pool of 48 physical, behavioral, and cognitive signs of strain were generated through references made to Selye (1976) and Lefebvre and Lawlis (1979). Four clinical psychology interns with experience in treating stress disorders were asked to sort the items into either physical, behavioral, or cognitive categories. Inter-rater reliability of these sorts ranged from r = .88 to r = 1.00.

Lefebvre and Sandford (1984) decided to include all 48 items in the SQ. Individuals were instructed to circle the letters which most closely corresponded to how often "in the past week" they had experienced or felt each of the items listed. Responses were recorded as A = never, B = rarely, C = sometimes, D = frequently, and E = constantly. These responses were subsequently transposed to numerical equivalents (from A = 1 to E = 5) for statistical analyses. In subsequent work, these adjectives have been anchored with the descriptors A = never (0 days a week), B = rarely (1-2 days a week), C = sometimes (3-4 days a week), D = frequently (5-6 days a week), E = constantly (7 days a week).

The SQ was composed of three scales: physical, behavioral, and cognitive. Scoring procedures were based on individual scales plus the full SQ score. The left-hand column of the SQ contained the 28 physical signs of strain such as "backaches." They were followed in the right-hand column by 12 behavioral items such as "spent time alone," and eight cognitive signs of strain such as "things can't

get any worse." Each scale score was calculated by computing the sums of the individual symptom ratings within each scale. In a factor analysis of the SQ, Lefebvre and Sandford (1985) further identified 11 orthogonal factors.

Normative data for the SQ, were obtained on 285 males and 127 females (n = 412) who had a mean age of 33 years (range 17-58 years). This group consisted of 38 elementary and secondary education teachers and 45 insurance agents who were enrolled in stress management classes; 110 naval engineers and 119 graduate business students who completed it as part of a battery of instruments assessing health-related behaviors and attitudes; and 100 undergraduate students who also took it as part of a battery of questionnaires (Lefebvre & Sandford, 1985).

Estimates of internal consistency for each subscale (physical, behavioral, and cognitive) and the total SQ were computed by use of the Spearman-Brown split half reliability and Cronbach alpha correlation statistics. In addition, test-retest correlations were obtained from a subsample of 68 graduate business students who completed another SQ four weeks after the first administration. Split-half reliabilities ranged from .62 (behavioral subscale) to .88 (total SQ). Cronbach's alpha values were slightly higher, ranging from .71 to .94. The test-retest reliabilities were quite similar for the SQ and the subscales, with a range of .73 to .79 (Lefebvre & Sandford, 1985). Concurrent validity was

established by correlations between the SQ, its three subscales, and the Beck Depression Inventory (BDI) from the sample of 68 graduate students. These data indicated the existence of a moderate degree of shared variance by the two instruments (approximately 50%) which was primarily attributed to the overlap of cognitive symptoms.

Lefebvre and Sandford (1985) found all groups except the naval engineers were under somewhat stressful circumstances when they completed the SQ. Both the insurance agents and the teachers had been self-referred for stress management workshops, and the student groups were evaluated one week before final examinations. Timing was based on the hypothesis that these conditions would lead to differences among the groups, ANOVAs were done on the group means for the SQ physical and cognitive scales. All four analyses were significant at ($p < .00001$). Newman-Keuls analyses of the differences between the means, revealed mean scores for the naval engineers which were significantly lower than other subgroups with the exception of scores on the measure of physical strain. On this scale, the naval engineers did not differ from business students and scored slightly lower than the remaining three groups.

An examination of the predictive utility of the SQ was conducted by Lefebvre and Sandford (1985) using the business students as a sample population. Three subscale scores were obtained by using multiple regression techniques to predict

total SQ scores at the end of a four-week follow-up period. The equation was a significant predictor of later stress at ($f(3,64) = 38.34$, $p < .0001$) with $R = .64$. It was learned that there were few direct effects for one variable on the other. Further multiple regression analyses suggested that over a one-month time period, 45% or more of the variability in each subscale could still be accounted for by its initial value.

Factor analyses showed the importance of using a cognitive/behavioral dimension in evaluating stress symptoms. The large proportion of the scale's variance accounted for by this factor reinforced the notion that purely physical approaches to the assessment of the stress responses miss a large portion of the syndrome. The multiple regression analyses failed to note any predictive function from one modality to another. Consequently, disfunction in one system (e.g., physical) does not predict subsequent stress in another modality (e.g., cognitive).

The menstrual complaints factor may not be a stable measure in the analysis of the total SQ since only the 127 women in the sample responded to these items. Lefebvre & Sandford (1985) chose not to replicate these items as automatic complaint factors in analyses of the physical subscale. (Items reflecting menstrual complaints were not used in this study). A copy of the SQ is found in Appendix C.

Summary

Educators and psychologists have conducted many studies in attempts to measure college and graduate school environments. Although there is general consensus concerning the interactional effects between the characteristics of the students and those of environments of the educational institutions, there is no clear theoretical framework for approaching the study of these phenomena. When studies are approached from a psychological perspective, theorists are concerned with the effect that the environment has on the development of a positive self-concept, and the ability of each student to find meaningful social relationships. The person-environment fit studies investigated the degree of congruence between the individual student and the college environment. These studies suggested that the greater the congruence, the more satisfied a student would be with the environment.

When students perceive their college environments as warm and accepting, they are more likely to progress satisfactorily from one developmental stage to the other. When the college or university environment is perceived as hostile or unaccepting, however, it can have negative affects on the students' ability to achieve academic success or to find socially rewarding experiences. On campuses that lack opportunities for self actualization, students may find themselves unable to progress beyond the adolescent or young

adult stages of development. Graduate students are as susceptible to influences of their educational environments as their undergraduate counterparts.

Graduate students are often faced with the additional responsibilities of maintaining a stable family life while either or both mates pursue a graduate degree. The literature has shown that graduate environments have not always been sensitive to the special needs of this sector of the graduate population. The provision of information on housing, child care, social activities and ways to use leisure time could make the graduate experience a more pleasant one for the married or older student. Although the need for meaningful use of leisure time and planned social activities have proved to reduce or eliminate the amount of stress graduate students experience, such activities have not been a high priority for most graduate institutions.

Counselors and student personnel workers have reported that students who do not find rewarding experiences within the college environment are more likely to suffer from stress and stress related illnesses. Minority students are particularly vulnerable to the pressures and isolation of the college and graduate school environments. Research indicates that minority students are more likely to suffer personality problems, problems with self-concept, and the lack of adequate social and environmental stimulation.

The studies of graduate environments suggest that the difference between perceived and desired influence over one's environment is an important determinant of motivation, performance, satisfaction, and the primary agents of socialization on campus. While most research has concentrated on the characteristics of one institution or location, a void exists in the literature on comparisons of how different types of environments and locations of various institutions are perceived by the students. There also are few studies which have compared the perceptions that both minority and majority graduate students have toward their school environments.

Some of the general findings of these studies indicate that minority students experience more problems of social isolation, loneliness, symptoms of stress, financial difficulties, and pressure to leave colleges and universities before receiving their graduate degrees. Other findings suggest stress may be more important factor in the high incidence of physical and emotional illnesses experienced graduate students. Several authors have expressed the need for more data on person-environment congruence as it relates to the social and academic adjustment of graduate students.

CHAPTER III
METHODOLOGY

The purpose of this study was to investigate the environmental perceptions, stress levels, and demographic conditions affecting black, Hispanic, and white graduate students. Specifically, this study investigated the correlation between levels of stress and the environmental perceptions of a select group of black, Hispanic, and white students located in two different types of graduate school environments (urban, regional, commuter-type campus vs. small town, residential-type campus). The research questions, population and sample, instruments, data collection procedures, data analyses, and limitations of this study are presented in this chapter.

Research Questions

Research Question One. What are the differences among black, Hispanic, and white graduate students' perceptions of their graduate school environments?

Research Question Two. What are the differences among black, Hispanic, and white graduate students' levels of stress?

Research Question Three. What is the relationship between environmental perceptions and stress levels of black, Hispanic and white graduate students?

Research Question Four. What is the relationship between total environmental perception scores and the set of variables (age, gender, marital status, children, semesters in graduate school, time spent on leisure activities, and type of graduate school) for black, Hispanic, and white graduate students?

Research Question Five. What is the relationship between levels of overall stress scores and the set of variables (age, gender, marital status, children, semesters in graduate school, time spent on leisure activities, and type of graduate school) for black, Hispanic, and white graduate students?

Population and Sample

The population for this study included all full-time graduate students who are attending the University of Florida and the University of South Florida, two public co-ed universities in the State of Florida. There were approximately 3,000 full-time graduate students attending the University of Florida in Gainesville and approximately 1,500 full-time graduate students attending the University of South Florida in Tampa. The sample included graduate students who were registered for nine or more semester hours.

The University of Florida is located in Gainesville on a 2,000-acre campus less than a mile from the center of town. Gainesville is described as an agricultural and light industrial community. The University population of 36,705 students makes up a sizeable portion of the 85,000 residents of Gainesville. According to the Florida Board of Regents' Report (1987), there were 18 colleges and professional schools located on the University of Florida campus and degrees were awarded in 116 major fields. The reported age ranges for undergraduate and graduate students revealed that about 76% of the students were between 17 and 24 years old; 19% were between 25 and 33 years old; 4% were between 34 and 44 years old; and only 1% were over 45 years old. The median age for all students enrolled at the University of Florida campus was 21 years old.

Approximately 11.5% of all students enrolled at the University of Florida came from states other than Florida. The University also reported an enrollment of students from over 100 foreign countries. According to the University of Florida's Graduate Student Demographics (1987), 318 part-time foreign graduate students and 720 full-time foreign graduate students were registered for graduate study during the 1987-88 school year. There were 812 foreign graduate students listed as non-resident aliens.

The Florida Board of Regents' Report (1987) revealed that approximately 35% of the graduates of the University of

Florida entered post-graduate study. The Graduate School receives over 6,000 applicants each year and admits about 42.7% of those who apply. During the 1987-88 school term, there were 1,080 males and 955 females, or a total of 2,035 graduate students enrolled on a part-time basis. The number of full-time graduate students reported by the registrar of the University of Florida for the 1987-88 school year listed 2,018 males and 1,129 females for a total enrollment of 3,098 full-time graduate students.

The University of Florida's Graduate School roster listed five groups of minority students in the 1987-88 enrollment totals. The groups included were non-resident aliens, Asians, American Indians, Hispanics, and blacks. The black graduate student enrollment of 172 students was the largest group of minority graduate students reported by the University of Florida's Fact Sheet (1988). The second largest group of minority students reported was the Hispanic student group with a total of 146 graduate students enrolled. According to the Demographic Report of the University of Florida's Graduate School (1987-88), 121 full-time black graduate students were enrolled and 87 full-time Hispanic students were enrolled.

The Housing Office Report of the University of Florida (1988-89b) reported that it housed 653 graduate students who were married or members of single-parent households. There were 224 single graduate students who resided in graduate

student apartments originally designed for families and 143 graduate students who shared apartments for single graduate students. Many of the graduate students of the University of Florida take advantage of the many apartments and town-houses which are located within walking distance of the campus.

The University of South Florida is a public co-ed university located on four regional campuses in the cities of Tampa, St. Petersburg, Sarasota, and Fort Myers. The four campuses are accessible to approximately two million people according to the University of South Florida's Catalog (1987-88). The programs of the regional campuses which are designed to serve both undergraduate and graduate students are offered at times suited to the employment needs of the residents of the area. Students may register at one of the regional campuses of the university or take advantage of the university's dual enrollment policy.

According to the Florida Board of Regents' Report (1987), the 27,550 students attending the University of South Florida were enrolled in 93 major fields of study. The median age for the University of South Florida's student population was 24 years old with 75.6% of the student population falling between 17 and 24 years of age. Approximately 87% of the students were Florida residents while 13% of the student population came from states other than Florida.

Over one-half of the students of the University of South Florida are employed and 49.1% of the students attend college on a part-time basis. More than two-thirds of the students commute to classes daily. According to the University of South Florida's Catalog (1987), only two University of South Florida campuses provide campus housing. The Tampa campus can house approximately 3,155 students while the Sarasota campus houses 265 student residents. Most of the residents are undergraduate students.

The main campus of the University of South Florida is located on a 1,695-acre tract of land about 10 miles northeast of downtown Tampa. The city of Tampa is a large, rapidly growing, metropolitan area with a population of over 250,000 people. The graduate-student population of the university received approximately 2,553 applicants during the 1987-88 school year and admitted 56.1% of the prospective students to graduate study. The average graduate student is approximately 34 years of age according to the Florida Board of Regent's Report (1987).

The University of South Florida's Graduate School Catalog (1987), reported that the graduate school population of the University had a part-time graduate student enrollment of 2,657 students and a full-time enrollment of 1,510 students or a total of 4,157 graduate students in attendance. There were 1,732 male students attending the University of South Florida's graduate school and 2,425 female

graduate students in attendance. The graduate school population consisted of 3,744 in-state students, 179 students from states other than Florida, and 234 graduate students who were listed as non-resident aliens.

The University of South Florida's Graduate Student Demographic Report (1987) listed blacks, Hispanics, Asians, Pacific Islanders and non-resident aliens as minority groups in the graduate student population. The largest group of minority students enrolled in the University of South Florida Graduate School consisted of 159 black students, and the next largest minority group reported was 153 Hispanic students. There were 41 black graduate students and 44 Hispanic graduate students enrolled on a part-time basis.

Procedure

The process of selecting a graduate-student sample for this study was initiated by sending letters to the Deans of the Graduate Schools of the University of Florida and the University of South Florida requesting permission to include full-time graduate students in the study. These two graduate schools were selected based on the differences in the types of campuses (urban, regional, commuter-type campus vs. small town, residential-type campus) and the demographics described earlier. A copy of the proposal was enclosed with the letters to each dean for informational purposes. The deans were asked to request a computer printout and mailing

labels for all full-time black, Hispanic, and white graduate students registered for the 1989 spring semester from the offices of the two university registrars.

The names of 400 white graduate students of the University of Florida and the University of South Florida were randomly selected from the lists of all white male and female graduate students provided by the registrars' offices. A table of random numbers was used to select a total of 100 full-time white male graduate students and 100 full-time white female graduate students from the University of Florida. There were 100 white male and female graduate students selected from the list of full-time graduate students at the University of South Florida. Because of the small number of minority graduate students attending the two graduate institutions, all full-time black and Hispanic graduate students attending both universities during the 1989 spring semester were selected for participation in the study.

The instrument was mailed to students whose names had been randomly selected by computer from each of the two universities. The instrument included a letter requesting each student's participation, a demographic survey, the Graduate Environment Survey, and the Strain Questionnaire. Each section of the instrument included directions for completion. Students were asked to return the completed instrument in a self-addressed stamped envelope.

Instruments

Demographic Questionnaire

A seven-item questionnaire was used to gather demographic data about the graduate students in the sample. The students in the study were asked to supply the following information: gender, age, marital status, graduate major, length of time in graduate school, and amount of time spent on leisure activities. The Demographic Questionnaire followed the model of the background information section used by Pace (1979) in the College Student Experiences Questionnaire. A copy of the Demographic Questionnaire is found in Appendix A.

College and University Environment Scales

A revised version of the College and University Environment Scales (CUES) was used to measure student perceptions of their graduate school environments. Through consultation with the author of the CUES, it was learned that the instrument had been modified in several studies of college and graduate school environments. This 25-item model follows other adaptations of the CUES found in the literature (Baird, 1976).

The new version of the CUES was validated using a panel of graduate student judges from five different departments of the University of Florida Graduate School. The five graduate students were asked to select 25 items from among the original 100 items on the CUES instrument which were

considered suitable for a study of graduate school environments. In order to ensure an equal representation of the items from each area of interest, the students were asked to select the same number of items from each of the five scales of the original CUES instrument. The five scales included were: practicality, community, awareness, propriety, and scholarship. The abbreviated instrument was further examined by six University of Florida Graduate School professors and the Vice President for Student Affairs. The professionals included three professors of counselor education, a professor of school psychology, a professor of student personnel-higher education and the Associate Dean of the University of Florida's Graduate School. The educational experts were asked to provide comments and suggestions for revising the abbreviated CUES in an effort to design an instrument which would be both efficient and effective in measuring the environmental perceptions of graduate students.

The comments and suggested modifications received from the professors were incorporated into the present revision of the CUES graduate student survey. For example, a Likert-type scale has been substituted for the true-false responses of the original CUES scales. Questions were selected from the second edition of the CUES which addressed possible environmental stressors in the lives of graduate students. Further modifications also were incorporated into the

instrument in response to the suggestion that graduate students identified more closely with their particular graduate departments than they do to the graduate school as a whole.

The revised CUES instrument was administered to a class of first and second-year graduate students enrolled in a professional development seminar. The seminar was comprised of six male and nine female students representing the various ethnic and cultural backgrounds of the university. Students were asked to provide comments about the structure of questions and the suitability of these questions for assessing graduate students' perceptions. Comments indicated that some questions were not clearly stated or were considered to be ambiguous, while others were not applicable to graduate student situations. Each item which received an answer of "I don't know," "I'm not sure," or a question mark at the end of the statement was revised in the final instrument. Still further modifications in the format and changes in the composition of items were made in keeping with the suggestions from the professional judges and randomly selected graduate-student participants.

Reliability for the revised version of the College and University Environment Scales (Graduate Student Survey) was established by administering the instrument to a class of 34 graduate students of the University of Florida who were participating in a course entitled Integrating Marriage and Sex Therapy. Since this class was a requirement for state

licensure in a number counselor-related professions, it included 16 male and 17 female graduate students from seven different areas of concentration whose ages varied from 22 to 47 years old.

The class was told that the survey would be administered on two different occasions and that this questionnaire was in no way related to the requirements of the course. The students were further informed that their participation was entirely voluntary and their identities would be kept anonymous by the use of code numbers which were self-selected and placed by the students on their respective instruments. Following a two-week period, the survey was again administered to the same group of graduate students.

The resulting scores for the graduate student surveys were analyzed using the Spearman-Brown test-retest reliability measure. The total number of subjects was reduced to 33 when one of the participants dropped the class. No items showed marked variances on either the pre- or post-test. The overall reliability measure calculated by the Spearman-Brown for surveys of equal length was .8860. The correlation between pre- and post-tests was .7954 and took into account items on which data were missing. An Analysis of variance yielded a grand mean of 3.3885 for the 50 observations.

Data Collection

A packet was be mailed to 251 black, 200 Hispanic, and 300 white graduate students whose names were selected from the lists of registered full-time graduate students attending the University of Florida and the University of South Florida during the 1989 spring semester. Each of the 751 graduate student participants selected received a packet containing a demographic questionnaire, the revised CUES instrument and the Strain Questionnaire. An explanatory cover letter (see Appendix D) was included in the packet to provide a brief description and purpose of the study. In the letter a request was made for each graduate student's voluntary participation. A stamped, self-addressed return envelope also was included in each packet.

The names of the graduate students were not placed on either the instruments or on the return envelopes in order to ensure confidentiality. Each packet was assigned a four digit code number. The code numbers allowed the researcher to determine the rate and source of the responses while protecting the confidentiality of the graduate students.

The original plan for a follow-up postcard to remind students to return questionnaires was not used when it became obvious that responses had exceeded the minimum number of 100 black, Hispanic and white graduate student respondents. The rate of response from both institutions

was about equally distributed. When 551 returns had been received, the data was coded into a computer and analyzed.

Data Analysis

Means and standard deviations for black, Hispanic, and white graduate students were computed using the scores on items completed for the total Graduate Environment Survey and for each environment subscale. Missing information was excluded from the computation of the mean item scores. Analyses of variance were used to compare both total and subscale scores for the three ethnic groups. Post-hoc tests were applied when significant differences were found. The level of significance was set at .05/6 or .008 because the overall alpha level of .05 was apportioned across six separate analyses.

The alphabetical responses of the Strain Questionnaire were converted to numerical values to correspond with the numerical values used for the environment survey. Items with missing responses were excluded from the computation of mean scores. Means and standard deviations for the total Strain Questionnaire and each of the three subscales were computed using the scores on items completed by graduate student respondents from the University of Florida and the University of South Florida. Analysis of variance was used to compare mean scores for black, Hispanic, and white graduate students on the total Strain and each of the subscales.

The significance level was set at .05/4 or .0125 because the overall alpha level of .05 was apportioned across four separate analyses.

A Pearson Product Moment Correlation Coefficient was used to describe the degree of relationship among all graduate students' scores for the Graduate Environment Survey and the Strain Questionnaire. Separate correlation matrices were used to describe the degree of relationship between environment scores and stress scores for students from the University of Florida and the University of South Florida. All relationships were considered significant at the .05 level.

Unweighted cell means (LS means) were computed using the item scores of black, Hispanic, and white graduate students on the Graduate Environment Survey. Regression analyses using the General Linear Models Procedure of the SAS computer system were used to predict environmental perceptions associated with demographic variables for graduate students from the University of Florida and the University of South Florida. There was no special order for entering the variables into the model. The significance was set at .05.

Regression analyses were used to predict the stress levels of black, Hispanic, and white graduate students based on the presence or absence of demographic variables. The unweighted cell means (LS means) for the Strain

Questionnaire were computed from the item scores of graduate student participants for entry into the regression analysis using the General Linear Procedure of the SAS computer program. The level of significance was set at .05. No special order was employed in selecting the variables for entry into the model.

Limitations of the Study

The results of this study may be limited because of the sampling procedure and the instruments used. Although all black and Hispanic participants had an equal opportunity to participate in the study, sampling bias may have occurred because of the procedure used to select white graduate student participants. Only 200 white graduate subjects were selected for participation out of a pool of 2,694 registered white graduate students attending the University of Florida. Another 100 full-time white graduate students were selected from the University of South Florida from among 757 eligible full-time white graduate students.

This study involved only black, Hispanic, and white graduate students attending two state-supported institutions located in the State of Florida. The experimental environment for this study included one small town, residential-type university and one urban regional, commuter-type university in the State of Florida. Thus, the results may

be limited to black, Hispanic, and white graduate students attending similar institutions.

The instrument in this study may pose possible limitations. Although the validity and reliability of the CUES questionnaire has been documented, it has rarely been used, without modifications, in studies devoted exclusively to graduate students. The self-report nature of the instrument may be subject to the biases of the graduate student participants and limited by each participant's desire and ability to answer each item truthfully and accurately.

CHAPTER IV
RESULTS AND SUMMARY

Results

The purpose of this study was to investigate environmental perceptions and stress levels affecting black, Hispanic, and white graduate students. The study was also used to determine the degree of relationship between the environmental perception scores and stress level scores of graduate students in this sample. Demographic conditions were examined to identify those conditions capable of predicting environmental perceptions and/or stress levels of black, Hispanic, and white graduate students.

This chapter will include information on the graduate students selected, data collection procedures, the data analyses, results of the analyses, and a summary of the results. The data presented in this chapter were collected from a research instrument administered by mail to full-time black, Hispanic, and white graduate students of the University of Florida and the University of South Florida. The instrument was developed from an extensive review of the literature related to college and graduate school environments and the stress levels of graduate students. The

instrument included a demographic questionnaire, a Graduate Environment Survey, and the Strain Questionnaire.

The survey instrument was mailed to 751 graduate students during the spring 1989 semester. Returned instruments were scored and analyzed by computers using the procedures outlined in Chapter III. Analyses of variance were used to investigate differences in environmental perceptions and stress levels among black, Hispanic, and white graduate students. A Pearson correlation investigated the relationship between environmental perception scores and stress level scores while a General Linear Model (GLM) regression procedure was used to determine the affect of demographic variables in predicting environmental perceptions and stress levels of graduate students. Data were analyzed for the total group and for each subgroup. Data analysis procedures and results of these analyses are provided following each of the five research questions.

The five research questions of interest in this study were:

1. What are the differences among black, Hispanic, and white graduate students' perceptions of their graduate school environments?
2. What are the differences among black, Hispanic, and white graduate students' levels of stress?
3. What is the relationship between environmental perceptions and stress levels of black, Hispanic, and white students?

4. What is the relationship between total environment perception scores and the set of variables (age, gender, marital status, semesters in graduate school, time spent on leisure activities, or type of graduate schools attended) for black, Hispanic, and white graduate students?

5. What is the relationship between overall stress scores and the set of variables (age, gender, marital status, semesters in graduate school, time spent on leisure activities, or type of graduate schools attended) for black, Hispanic, and white graduate students?

Graduate Student Participants

Of the 751 instruments mailed to black, Hispanic, and white graduate students from the University of Florida and the University of South Florida, 531 usable instruments were returned for analysis. A breakdown of the number of returns indicated that 282 survey instruments by University of Florida graduate students and 249 were returned by University of South Florida graduate students. Instrument counts by ethnic groups revealed that 181 instruments were returned by black graduate students, 135 by Hispanic students, and 215 were returned by white graduate students. Female students returned a greater number of surveys than male graduate students. Demographic variables and frequencies for black, Hispanic, and white graduate student participants are in Table 4.1.

TABLE 4.1. FREQUENCIES FOR DEMOGRAPHIC VARIABLES.

Variables	Levels	All Respondents Frequency	All Respondents Percent	Univ. of Fla. Frequency	Univ. of Fla. Percent	Univ. S. Fla. Frequency	Univ. S. Fla. Percent
Race	Black	181	34.1	79	28.0	102	41.0
	Hispanic	135	25.4	55	19.5	80	32.1
	White	215	40.5	148	52.5	67	26.9
Gender	Female	303	57.1	143	50.7	160	64.3
	Male	228	42.9	139	49.3	89	35.7
Marital Status	Divorced	51	9.6	14	5.0	37	14.9
	Married	219	41.2	109	38.7	110	44.2
	Single	261	49.2	159	56.4	102	41.0
Children?	Yes	166	31.3	60	21.3	106	42.6
	No	363	68.4	220	78.0	143	57.4
Time in School	1 Semester	27	5.1	16	5.7	11	4.4
	2 Semesters or more	503	94.9	266	94.3	237	95.6
Leisure Time - Weekly	6 to 8 Hours	290	54.8	163	58.0	127	51.2
	3 to 5 Hours	172	32.5	91	32.4	81	32.7
	Less than 3 Hours	67	12.7	27	9.6	40	16.1
Major Dept.	Business	52	9.8	23	8.2	29	11.7
	Engineering	51	9.6	38	13.5	13	5.2
	Health Science	34	6.4	25	8.9	9	3.6
	Humanities	48	9.1	20	7.1	28	11.3
	Math Science	22	4.2	11	3.9	11	4.4
	Nat. Sciences	95	17.9	68	24.1	27	10.9
	Soc. Science	228	43.0	97	34.4	131	52.8

Black, Hispanic, and White Graduate Students' Perceptions of Their Graduate School Environments

The first objective of this study was to examine the perceptions of black, Hispanic, and white graduate students toward their graduate school environments. The objective was stated as research question one.

1. What are the differences among black, Hispanic, and white graduate students' perceptions of their graduate school environments?

Graduate student participants were asked to rate the characteristics of their graduate environments on each of the five subscales of the Graduate Environment Survey. Participants responded by ranking the characteristics of their environments on a scale from one to five with five representing the most positive environmental perceptions.

Means and standard deviations were computed using items completed on each subscale of the Graduate Environment Survey. The total score for each examinee was the sum of the subscale scores. Missing information was excluded from the computation of mean scores. Analyses of variance were used to compare the mean scores of black, Hispanic, and white graduate students. The level of significance was set at .05/6 or .008 because the overall alpha level of .05 was apportioned across six separate analyses.

Analysis of variance revealed no significant differences ($p = .8929$) among the mean scores of black, Hispanic, and white graduate student respondents to the total Graduate

Environment Survey. Means, standard deviations, and the F-value for the ANOVA used to investigate environment scores for the three ethnic groups are found in Table 4.2. ANOVA also revealed no significant differences among perceptions of black, Hispanic, and white graduate students on the five environment subscales. Means, standard deviations, and the F-values related to the Practicality, Scholarship, Propriety, Community, and Awareness subscales are in Table 4.3.

Stress Experienced by Black, Hispanic, and White Graduate Students

A second objective of this study was to investigate the stress levels of black, Hispanic, and white graduate students. This objective was stated as research question two.

2. What are the differences among black, Hispanic, and white graduate students' levels of stress?

The instrument used to investigate the levels of stress experienced by black, Hispanic, and white graduate students was the Strain Questionnaire, which measured symptoms of physical, behavioral, and cognitive stress. The Strain Questionnaire consisted of 45 items and was divided into three subscales.

Black, Hispanic, and white graduate student participants were asked to examine the (45) stress symptoms identified on the Strain Questionnaire and circle the

TABLE 4.2. MEANS, STANDARD DEVIATIONS, AND F-VALUES FOR ANOVA TESTS OF ENVIRONMENTAL PERCEPTIONS ACROSS ETHNIC GROUPS.

VARIABLE: GRADUATE ENVIRONMENT SURVEY[1]			
Groups	Numbers Observed	Means	Standard Deviations
Blacks	180	2.87	0.443
Hispanics	135	2.86	0.387
Whites	215	2.84	0.422
Total	530	2.85	0.417

[1] F = 0.11, P = .8929, df = 2, 527.

TABLE 4.3. MEANS, STANDARD DEVIATIONS, AND F-VALUES FOR ANOVA TESTS OF ENVIRONMENTAL PERCEPTION SCALES ACROSS ETHNIC GROUPS.

VARIABLE #1: PRACTICALITY SCALE[1]

Groups	Numbers Observed	Means	Standard Deviations
Black	178	2.71	0.63
Hispanic	135	2.56	0.63
White	215	2.61	0.70
Total	528	2.63	0.65

[1] F = 0.12, p = 0.8828, df = 2, 527.

VARIABLE #2: SCHOLARSHIP SCALE[2]

Groups	Numbers Observed	Means	Standard Deviations
Black	180	2.94	0.72
Hispanic	135	2.95	0.60
White	215	2.92	0.61
Total	530	2.93	0.64

[2] F = 2.41, p = 0.0909, df = 2, 527.

TABLE 4.3 continued.

VARIABLE #3: PROPRIETY SCALE[3]			
Groups	Numbers Observed	Means	Standard Deviations
Black	180	3.34	0.68
Hispanic	135	3.40	0.66
White	215	3.04	0.64
Total	530	3.32	0.66

[3] F = 2.41, p = .0909, df = 2, 527.

VARIABLE: #4 COMMUNITY SCALE[4]			
Groups	Numbers Observed	Means	Standard Deviations
Black	180	3.34	0.66
Hispanic	135	2.88	0.73
White	215	3.04	0.65
Total	530	2.95	0.38

[4] F = 3.29, p = .0380, df = 2, 527.

TABLE 4.3 continued.

VARIABLE # 5: Awareness[5]			
Groups	Numbers Observed	Means	Standard Deviations
Black	176	2.38	0.61
Hispanic	133	2.47	0.63
White	211	2.38	0.56
Total	520	2.41	0.60

[5] F = 1.21, p = 0.2980, df = 2, 517.

response which most closely corresponded to the number of days (in the past week) they experienced a particular stress symptom. The responses to each statement ranged from A to E with E representing the highest level of stress. For the purpose of analyses, alphabetical responses were converted to numerical values (1 through 5). Means and standard deviations for the Strain Questionnaire were computed using the stress scores for items on each subscale. Items with missing responses were excluded from the computation of mean scores.

ANOVA was used to compare mean stress scores for black, Hispanic, and white graduate students. The level of significance for this analysis was set at .05/4 or .0125 when the overall alpha level of .05 was apportioned across four separate analyses using the total Strain Questionnaire and the three subscales as dependent variables.

Means, standard deviations, and the F-values for the ANOVA used to investigate differences among the overall stress levels of graduate students are in Table 4.4. Analysis of the Strain Questionnaire revealed significant differences ($p = .0032$) among the stress levels of black, Hispanic, and white graduate respondents. A post-hoc procedure using the Tukey Studentized Range (HSD) revealed that Hispanic graduate students reported significantly higher levels of overall stress than black graduate students.

TABLE 4.4. MEANS, STANDARD DEVIATIONS AND F-VALUES FOR ANOVA TESTS OF THE STRAIN ACROSS ETHNIC GROUPS.

VARIABLE: TOTAL STRAIN (STRESS) QUESTIONNAIRE[1]			
Groups	Numbers Observed	Means	Standard Deviations
Black	181	1.46	0.413
Hispanic	135	1.61	0.466
White	214	1.56	0.460
Total	530	1.54	0.450

[1] $F = 5.81$, $p = .0032$, $df = 2, 527$.

Means, standard deviations, and F-values for the three Strain Subscales are in Table 4.5. ANOVA used to investigate differences in physical, cognitive, and behavioral stress revealed no significant differences in levels of physical and cognitive stress among graduate students from different ethnic groups. However, significant differences ($p = .0001$) were observed among the behavioral stress levels of black, Hispanic, and white graduate students. A post-hoc analysis using the Tukey (HSD) determined that the behavioral stress levels of Hispanic graduate students were significantly higher than those of black graduate students.

Because of the skewness in the raw score distributions for the Strain Questionnaire, a second analysis was run using a logarithm transformation of the Strain scores. However, there were no statistically significant differences in the results of the analysis using logarithm transformations.

Relationship Between Environmental Perceptions and Stress Levels of Black, Hispanic, and White Graduate Students

The third objective of this study was to determine the degree of relationship between environmental perception scores and stress level scores of graduate students. The objective was stated as research question three:

TABLE 4.5. MEANS, STANDARD DEVIATIONS AND F-VALUES FOR ANOVA TESTS OF THE STRAIN (STRESS) SCALES ACROSS ETHNIC GROUPS.

SCALE #1: PHYSICAL STRESS[1]

Groups	Numbers Observed	Means	Standard Deviations
Black	181	1.47	.424
Hispanic	135	1.60	.476
White	214	1.56	.524

[1] F = 3.32, p = .0369, df = 2, 527.

SCALE #2: BEHAVIORAL STRESS[2]

Groups	Numbers Observed	Means	Standard Deviations
Black	181	1.47	.455
Hispanic	135	1.65	.501
White	214	1.63	.491

[2] F = 9.60, p = .0001, df = 2, 528.

TABLE 4.5 continued.

SCALE #3: COGNITIVE STRESS[3]			
Groups	Numbers Observed	Means	Standard Deviations
Black	181	1.47	.670
Hispanic	135	1.67	.860
White	213	1.48	.607

[3] F = 3.91, p = .0206, df = 2, 526.

3. What is the relationship between total environment perception scores and stress scores of black, Hispanic, and white graduate students?

A Pearson Product Moment correlation coefficient was used to describe the degree of relationship between scores on the Graduate Environment Survey and the Strain Questionnaire. The relationship between the Graduate Environment Survey and the Strain Questionnaire were considered significant at the .05 level. The Pearson correlation revealed no significant relationship between the environmental perception scores and the stress scores among ethnic groups. The correlation between the two scores was also computed for subsamples of black, Hispanic, and white graduate students. Only the correlation for white graduate students (.0330) was significant in this analysis (see Table 4.6).

The Pearson correlation coefficient was further used to investigate the degree of relationship between total environmental perception scores and stress scores for subsamples of graduate students from the University of Florida and the University of South Florida. Means, standard deviations, and correlation coefficients used to test the relationship between the environmental perception scores and stress level scores of graduate students from the University of Florida and the University of South Florida are in Tables 4.7 and 4.8, respectively. The correlation analysis

TABLE 4.6. CORRELATION COEFFICIENTS AND P-VALUES USED TO DETERMINE THE DEGREE OF ASSOCIATION BETWEEN TOTAL ENVIRONMENT PERCEPTION SCORES AND OVERALL STRAIN (STRESS) SCORES FOR BLACK, HISPANIC AND WHITE GRADUATE STUDENTS.

Groups	Numbers Observed Environment	Strain	Correlation Coefficients	P-Values
Black	180	181	.0480	.6459
Hispanic	135	135	.1055	.3848
White	215	214	.2063	.0330
Total	530	530	.0745	.0869

MEAN SCORES: ENVIRONMENT = 2.85, STRAIN = 1.54

TABLE 4.7. CORRELATION COEFFICIENTS AND P-VALUES USED TO COMPARE ENVIRONMENTAL PERCEPTIONS AND (STRAIN) STRESS LEVELS OF BLACK, HISPANIC AND WHITE GRADUATE STUDENTS FROM THE UNIVERSITY OF FLORIDA.

Groups	Numbers Observed		Correlation Coefficients	P-Values
	Environment	Strain		
Black	78	79	.1914	.0932
Hispanic	55	55	.0582	.6729
White	148	147	.1958	.0175
Total	281	281	.1562	.0088

TOTAL MEAN SCORES: ENVIRONMENT = 2.89, STRAIN = 1.62

TABLE 4.8. CORRELATION COEFFICIENTS AND P-VALUES USED TO COMPARE ENVIRONMENTAL PERCEPTIONS AND (STRAIN) STRESS LEVELS OF BLACK, HISPANIC AND WHITE GRADUATE STUDENTS FROM THE UNIVERSITY OF SOUTH FLORIDA.

Groups	Numbers Observed		Correlation Coefficients	P-Values
	Environment	Strain		
Black	102	102	-.0963	.3354
Hispanic	80	80	-.0557	.6120
White	67	67	-.1128	.3631
Total	249	249	-.0747	.2403

TOTAL MEAN SCORES: ENVIRONMENT = 2.81, STRAIN = 1.46.

revealed a significant relationship ($p = .0088$) between environmental perception and stress level scores for graduate students from the University of Florida. However, no significant relationship was revealed for graduate students from the University of South Florida.

The Relationship Between Demographic Variables and Graduate Students' Perceptions of Their Graduate School Environments

A fourth objective of this study was to investigate the relationship between demographic conditions and the environmental perceptions of graduate students in the sample population. This objective was stated as research question four.

4. What is the relationship between total environment perception scores and the set of variables (age, gender, marital status, children, semesters in graduate school, type of graduate school or time spent on leisure activities) for black, Hispanic, and white graduate students?

A demographic questionnaire was used to investigate the relationship among selected demographic variables and the environmental perceptions of the graduate students in this study. Participating graduate students from the University of Florida and the University of South Florida responded to inquiries concerning their ethnic group, age, gender, marital status, children, semesters spent in graduate school,

time spent on leisure activities, and type of graduate institution attended.

The unweighted cell means (LS means) and standard deviations for environmental perceptions were computed and entered into a regression analysis using the General Linear Models Procedure of the SAS computer system. The regression analysis was used to predict environmental perceptions associated with demographic variables for graduate students in the sample group. There was no special order for entering the variables into the model. The significance level was set at .05.

The model for predicting environmental perceptions from demographic variables revealed that the type of graduate school attended was significant in predicting environmental perceptions for the total group of graduate students when the effects of age, gender, marital status, children, number of semesters in graduate school, and the amount of time spent on leisure activities were controlled. No other variables were significant for predicting environmental perceptions. LS means, F-ratios, and P-values for the environment models and demographic variables are in Table 4.9.

F-ratios, R-squares, and P-values for the regression model used to predict environmental perceptions from demographic variables affecting all graduate students are in Table 4.10. The regression model using the ethnic identity

TABLE 4.9. LS MEANS, F-RATIOS, AND P-VALUES FOR REGRESSION ANALYSIS OF ENVIRONMENT SCORES ON DEMOGRAPHIC VARIABLES.

Variables	LS Means	F-Ratios	P-Values
Age		0.39	.6766
1	(14.18)		
2	(14.01)		
3	(13.95)		
Gender		1.87	.1718
1	(13.92)		
2	(14.17)		
Marital		0.30	.7441
1	(14.16)		
2	(14.09)		
3	(13.89)		
Children		0.68	.4094
1	(14.15)		
2	(13.94)		
Time Attended		1.76	.1853
1	(13.77)		
2	(14.32)		
Leisure		1.95	.1438
1	(13.81)		
2	(13.92)		
3	(14.40)		
School		5.47	.0197
1	(13.82)		
2	(14.27)		

TABLE 4.10. F-RATIOS, R-SQUARES, AND P-VALUES FOR REGRESSION ANALYSIS OF ENVIRONMENT SCORES ON DEMOGRAPHIC VARIABLES FOR THE TOTAL GROUP AND THREE ETHNIC SUBGROUPS.

Groups	Numbers	F-ratios	R^2-values	P-values
Blacks	175	3.14	.1607	.0011
Hispanics	132	1.25	.0935	.2674
Whites	208	1.45	.0688	.1590
Total	515	1.48	.0287	.1414

of graduate students revealed that the type of graduate school was significant in predicting the environmental perceptions of black graduate students and age was significant in predicting environmental perceptions for Hispanic students.

The LS means, F-rations, and P-values for the regression analyses used to predict environmental perceptions for black, Hispanic, and white graduate students are in Tables 4.11, 4.12, and 4.13, respectively.

The Relationship Between Demographic Variables and Levels of Stress Experienced by Graduate Students

The fifth objective of this study was to investigate the relationship between demographic variables and the levels of stress experienced by graduate students in the sample population. The objective was stated as research question five.

5. What is the relationship between overall stress scores and the set of demographic variables (age, gender, marital status, semesters in graduate school, time spent on leisure activities or type of graduate school attended) for black, Hispanic, and white graduate students?

Information on the stress levels and demographic variables affecting graduate students was gathered from the Strain Questionnaire and the demographic survey completed by graduate student respondents from the University of Florida and the University of South Florida.

TABLE 4.11. LS MEANS, F-RATIOS, AND P-VALUES FOR REGRESSION ANALYSIS OF ENVIRONMENT SCORES ON DEMOGRAPHIC VARIABLES FOR BLACK GRADUATE STUDENT RESPONDENTS (N = 175).

Variables	LS Means	F-Ratios	P-Values
Age		2.75	.0669
1	(13.30)		
2	(13.50)		
3	(14.88)		
Gender		2.37	.1256
1	(13.61)		
2	(14.17)		
Marital		1.43	.2426
1	(14.39)		
2	(14.13)		
3	(13.16)		
Children		0.01	.9398
1	(13.91)		
2	(13.87)		
Time Attended		1.73	.1903
1	(13.50)		
2	(14.29)		
Leisure		2.65	.0738
1	(13.35		
2	(13.88)		
3	(14.46)		
School		10.98	.0011
1	(13.30)		
2	(14.49)		

TABLE 4.12. LS MEANS, F-RATIOS, AND P-VALUES FOR REGRESSION ANALYSIS OF ENVIRONMENT SCORES ON DEMOGRAPHIC VARIABLES FOR HISPANIC GRADUATE STUDENT RESPONDENTS (N = 132).

Variables	LS Means	F-Ratios	P-Values
Age		4.85	.0094
1	(15.02)		
2	(13.87)		
3	(13.66)		
Gender		0.05	.8194
1	(14.15)		
2	(14.23)		
Marital		0.43	.6542
1	(14.17)		
2	(13.95)		
3	(14.43)		
Children		0.80	.3726
1	(14.40)		
2	(13.98)		
Time Attended		0.08	.7764
1	(14.07)		
2	(14.30)		
Leisure		1.04	.3578
1	(14.01)		
2	(13.78)		
3	(14.77)		
School		0.71	.4027
1	(14.33)		
2	(14.04)		

TABLE 4.13. LS MEANS, F-RATIOS, AND P-VALUES FOR REGRESSION ANALYSIS OF ENVIRONMENT SCORES ON DEMOGRAPHIC VARIABLES FOR WHITE GRADUATE STUDENT RESPONDENTS (N = 208).

Variables	LS Means	F-Ratios	P-Values
Age		1.16	.3167
1	(13.70)		
2	(14.09)		
3	(13.50)		
Gender		2.43	.1204
1	(13.53)		
2	(14.00)		
Marital		1.23	.2956
1	(14.01)		
2	(14.10)		
3	(13.18)		
Children		1.14	.2871
1	(13.53)		
2	(14.00)		
Time Attended		0.08	.7805
1	(13.66)		
2	(13.87)		
Leisure		0.71	.4929
1	(13.76)		
2	(13.48)		
3	(14.05)		
School		1.18	.2793
1	(13.57)		
2	(13.96)		

The unweighted cell means (LS means) for the Strain (stress) Questionnaire were computed from the scores of graduate student participants. Stress scores and demographic variables were entered into a regression analysis using the General Linear Models procedure of the SAS computer system. The regression model was used to predict the stress levels of graduate students based on the presence of demographic variables. No special order was employed in selecting the variables for entry into the model. The level of significance was set at .05.

The model for predicting stress levels from the list of demographic variables revealed that age, gender, type of school, and leisure time were significant in predicting overall stress levels for the total group of graduate student respondents in this study. LS means, F-ratio, R-values and P-values for the regression model used to predict Strain from demographic variables are found in Table 4.14. Similarly, the model revealed that demographic variables were significant in predicting stress levels of black graduate students (see Table 4.15).

When regression analyses were used to predict stress levels for different ethnic groups, the model revealed that marital status, amount of time spent on leisure activities and type of graduate school attended were significant in predicting stress levels for black graduate students when other variables were controlled. LS means, F-values, and

TABLE 4.14. LS MEANS, F-RATIOS, AND P-VALUES FOR REGRESSION OF STRAIN SCORES ON DEMOGRAPHIC VARIABLES FOR ALL GRADUATE STUDENT RESPONDENTS (N = 524).

Variables	LS Means	F-Ratios	P-Values
Age		2.34	.0972
1	(4.77)		
2	(4.93)		
3	(4.54)		
Gender		3.80	.0518
1	(4.63)		
2	(4.87)		
Marital		2.58	.0767
1	(4.73)		
2	(4.53)		
3	(5.00)		
Children		2.22	.1368
1	(4.62)		
2	(4.88)		
Time Attended		0.18	.6698
1	(4.81)		
2	(4.69)		
Leisure		2.96	.0525
1	(4.53)		
2	(4.79)		
3	(4.93)		
School		8.77	.0032
1	(4.56)		
2	(4.94)		

TABLE 4.15. LS MEANS, F-RATIOS, R-SQUARES, AND P-VALUES FOR REGRESSION ANALYSIS OF STRAIN SCORES ON DEMOGRAPHIC VARIABLES FOR THE TOTAL GROUP AND THREE ETHNIC SUBGROUPS.

Groups	Numbers	F-ratios	R^2-values	P-values
Blacks	180	4.34	.2044	.0001
Hispanics	134	1.60	.1148	.1154
Whites	210	2.12	.0963	.0245
Total	524	4.01	.0724	.0001

P-values for predicting stress levels of black graduate students from demographic variables is found in Table 4.16.

The presence or absence of children was found significant in predicting stress levels for Hispanic graduate students when all other demographic variables were controlled. LS means, F-ratios, and P-values for the regression model used to examine stress levels for Hispanic students is in Table 4.17.

Table 4.18 contains LS means, F-ratios, and P-values used to predict stress levels of white graduate students from demographic variables. The regression model revealed that gender was significant in predicting stress levels for white graduate students when remaining variables in the model were controlled.

Discussion

Research Question One: What are the differences among black, Hispanic, and white graduate students' perceptions of their graduate school environments?

The results of this study revealed that black, Hispanic, and white graduate students did not differ significantly in perceptions of their graduate school environments. Instead, graduate students from all three ethnic groups tended to perceive their total graduate environments as being average. With the exception of a few individuals in each ethnic group, neither group of students seemed to

TABLE 4.16. LS MEANS, F-RATIOS, AND P-VALUES FOR REGRESSION ANALYSIS OF STRAIN SCORES ON DEMOGRAPHIC VARIABLES FOR BLACK GRADUATE STUDENT RESPONDENTS (N = 180).

Variables	LS Means	F-Ratios	P-Values
Age		0.35	.7029
1	(4.72)		
2	(4.75)		
3	(4.45)		
Gender		0.59	.4454
1	(4.56)		
2	(4.72)		
Marital		5.24	.0062
1	(5.00)		
2	(4.26)		
3	(4.66)		
Children		0.07	.1445
1	(4.60)		
2	(4.68)		
Time Attended		2.15	.1445
1	(4.90)		
2	(4.38)		
Leisure		7.49	.0008
1	(4.10)		
2	(4.65)		
3	(5.17)		
School		8.89	.0033
1	(4.33)		
2	(4.95)		

TABLE 4.17. LS MEANS, F-RATIOS, AND P-VALUES FOR REGRESSION ANALYSIS OF STRAIN SCORES ON DEMOGRAPHIC VARIABLES FOR HISPANIC GRADUATE STUDENT RESPONDENTS (N = 134).

Variables	LS Means	F-Ratios	P-Values
Age		0.94	.3943
1	(4.55)		
2	(5.00)		
3	(4.84)		
Gender		0.01	.9241
1	(4.78)		
2	(4.81)		
Marital		2.04	.1344
1	(4.42)		
2	(4.61)		
3	(5.36)		
Children		3.96	.0487
1	(4.41)		
2	(5.18)		
Time Attended		0.04	.8439
1	(4.73)		
2	(4.86)		
Leisure		0.90	.4093
1	(5.02)		
2	(5.04)		
3	(4.33)		
School		1.96	.1642
1	(4.60)		
2	(4.99)		

TABLE 4.18. LS MEANS, F-RATIOS, AND P-VALUES FOR REGRESSION ANALYSIS OF STRAIN SCORES ON DEMOGRAPHIC VARIABLES FOR WHITE GRADUATE STUDENT RESPONDENTS (N = 210).

Variables	LS Means	F-Ratios	P-Values
Age		0.81	.4462
1	(4.55)		
2	(4.75)		
3	(4.43)		
Gender		9.26	.0027
1	(4.28)		
2	(4.87)		
Marital		0.42	.6588
1	(4.71)		
2	(4.50)		
3	(4.52)		
Children		1.40	.2382
1	(4.42)		
2	(4.74)		
Time Attended		0.01	.9032
1	(4.55)		
2	(4.61)		
Leisure		1.50	.2249
1	(4.33)		
2	(4.62)		
3	(4.78)		
School		1.30	.2556
1	(4.44)		
2	(4.71)		

view their graduate environments as very negative or extremely positive.

The mean scores for black and Hispanic graduate students were almost identical while white graduate students' mean environment scores were only slightly lower than the scores for the two minority student groups. The result of this analysis of environmental perceptions does not support the earlier findings of Martinez and Sedlacek (1982) regarding college and university students' perceptions. Martinez and Sedlacek concluded that Hispanic students tended to hold perceptions of their college and university environments somewhere between the perceptions of the black students and white students.

To further answer research question one, black, Hispanic, and white graduate students' perceptions of their graduate school environments were not significantly different on either of the five subscales of the Graduate Environment Survey (practicality, scholarship, propriety, awareness, and community). These findings do not support the conclusions of Baird (1974) and Martinez and Sedlacek (1982) who suggested that black and white graduate students' responses tended to differ greatly when questioned about their graduate school environments.

Black graduate students in the Baird study expressed great dissatisfaction with the relevance and practical application of graduate school requirements to actual job

expectations. The mean scores for black graduate students in this study did not differ significantly from Hispanic or white graduate students in the area of practicality. While the black students in the Baird study differed greatly from white students in their opinions regarding scholarship requirements, black graduate students mean scores for scholarship in this study were not significantly different from Hispanic or white graduate students. All ethnic groups of graduate students held similar perceptions of the community and awareness emphasis of their graduate school environments.

Research Question Two: What are the differences among black, Hispanic, and white graduate students' levels of stress?

The results of this study revealed that there are significant differences in the levels of stress experienced by black, Hispanic, and white graduate students. While all groups of graduate students tended to report very low levels of stress, the overall stress levels of Hispanic graduate students were significantly higher than the stress levels of black and white graduate students. The mean stress levels reported by black graduate students were significantly lower than the mean stress levels for Hispanic graduate students. Black graduate students reported the lowest overall stress levels of the three ethnic groups.

In order to answer research question two more specifically, three areas of stress (Strain) were examined individually. Examination of the areas of physical, behavioral, and cognitive stress revealed that there were no significant differences in physical or cognitive stress among the three ethnic groups. However, Hispanic graduate students reported higher stress levels of behavioral stress, while behavioral stress levels of black graduate students were significantly lower than other ethnic groups. Stress levels were not significantly different for white graduate students.

The relatively low levels of stress reported by all groups of graduate students is not consistent with current literature on graduate student stress. Barnett (1982) reported that a large percentage of graduate students score in the critical area on the Holmes and Rahe Inventory of Critical Life Events and Rudd (1985) found that some graduate students reported serious depressive illnesses. Rudd is also concerned that an interactional effect may even exist between the difficulties of post-graduate study and certain stress related illnesses.

There is some concern that the graduate students in this group may not have been comfortable reporting concerns about their physical or emotional stress levels. There may also be a tendency to respond to the "feelings of the moment" or to attribute stressful feelings to some cause

other than graduate school. Graduate students may also have a tendency to minimize the long-term effects of concentrated study or other stressful school situations (Rudd, 1985).

The lower stress levels reported by minority students in this study do not support the conclusions of other similar research. While the literature reveals that graduate school environments are stressful for most students, Gunnings (1982) found that minority groups on predominately white college campuses faced additional pressures which affected their physiological and psycho-social lives. Parker and Scott (1985) indicated that ethnically different students have not felt welcome on majority white campuses, while Olivar (1982) found that it had become increasingly difficult for minority students to adjust to campus life at traditionally white colleges.

Research Question Three: What is the relationship between environmental perceptions and stress levels of black, Hispanic, and white graduate students?

The relationship between environmental perception and stress level scores were not significant when the total sample population was analyzed. However, when individual graduate schools were used to analyze the relationship for graduate students from the University of Florida and the University of South Florida, there was a significant relationship between environmental perception scores and stress

level scores for graduate students from the University of Florida.

The individual graduate school model revealed an inverse relationship between environmental perception and stress level scores for graduate students from the University of Florida. This relationship supports the assumption that as environmental perception scores increase (become more positive) stress level scores tend to decrease for graduate students. Although this relationship is considered significant for all respondents from the University of Florida, the mean scores for white University of Florida graduate student participants are significantly higher than the mean scores for black or Hispanic graduate students at the University of Florida.

In order to further answer question three, it should be understood that this study analyzed the environmental perceptions of black, Hispanic, and white graduate students and the stress levels of these students using two different scales. The lack of a significant relationship between the scales may be due in part to the design of the instrument. Tracey and Sherry (1984) found that person and environment variables were typically examined using separate conceptual schemes, and when examined together, there was no conceptual overlap. The major finding in this study was that person-environment-fit variables were superior to either the person

or the environment alone in relation to stress and strain in college student subjects.

Research Question Four: What is the relationship between total environment perception scores and the set of variables (age, gender, marital status, semesters in graduate school, time spent on leisure activities, or type of graduate school attended) for black, Hispanic, and white graduate students?

Several demographic variables were found significant for predicting the environmental perceptions of minority graduate students. However, the regression model used to predict environmental perceptions for the total group revealed that the type of graduate school attended was the only variable significant for predicting the environmental perceptions of both minority and majority graduate students.

Patterson, Sedlacek, and Perry (1984) also found differences in perceptions among black and Hispanic students from two different college campuses. The differences between the two university environments in the 1984 study were more closely related to geographic locations than differences in the racial groups studied. The analysis took into consideration the differences between urban vs. rural colleges, public vs. private institutions, and small vs. large campuses. This study also considered the differences in location (urban vs. small town), differences in environmental structure (single campus vs. multi-campus environment), and differences in ethnicity (minority vs. majority graduate students) on each campus.

There are obvious differences in the environments of the two graduate schools. While both schools are public universities located in the State of Florida, the University of Florida is located in a small college town environment on a large self-contained campus. The University of Florida also has a very large, diverse, student population and awards substantially more advanced degrees in graduate and professional areas than the University of South Florida. The University of Florida is a nationally recognized research institution and the University of South Florida is best known for serving the educational and convenience needs of a small number of urban commuter students on five satellite campuses. The University of South Florida offers a limited number of graduate and professional programs and encourages the University of Florida to recruit graduate students for graduate and professional degree programs not offered at their university.

When ethnic groups were examined individually, the type of graduate school attended was significant for predicting the environmental perceptions of black graduate students.

Age was a significant demographic characteristic for predicting the environmental perceptions of Hispanic graduate students. Younger Hispanic graduate students (23 to 27) had higher stress levels than older Hispanic students. No single demographic condition was significant for

predicting the environmental perceptions of white graduate students.

Research Question Five: What is the relationship between overall stress scores and the set of variables (age, gender, marital status, semesters in graduate school, time spent on leisure activities, or type of graduate school attended) for black, Hispanic, and white graduate students?

The total group model used to predict stress levels from demographic variables revealed that certain demographic characteristics were significant in predicting stress levels for all the graduate students. Gender, the amount of time spent on leisure activities, and the type of graduate school attended were significant in predicting stress levels of graduate students in this study.

The demographic regression model revealed that gender was a significant predictor stress. The mean stress levels of female graduate students were significantly higher than the stress levels of male graduate students. The model was also significant for predicting stress levels from the amount of leisure time. Stress scores were higher for graduate students who spent less than three hours a week on leisure activities. The type of graduate school attended was significant for predicting the stress levels of graduate students. The model revealed that stress levels for graduate students from the University of South Florida were significantly higher than the stress levels of graduate students from the University of Florida.

While each of these findings is significant, the amount of time spent on leisure activities reinforces the findings of other studies concerning leisure time among graduate students. In a study by Rimmert, Lammert, and McClain (1982), both married and single graduate students felt that they could benefit from regularly scheduled leisure activities. Bernard (1988) concluded that leisure patterns and behaviors cannot be considered in isolation from the broader context of people's lifestyles. The study indicated that graduate students needed to begin to articulate the complex links between leisure choices and the constraints of work and school activities. A lack of free time was also considered by McLaughlin (1985) to be an area of great concern.

To further answer question five, stress scores for each ethnic group of graduate students was entered into individual group models. The model for black graduate students revealed that marital status, the amount of time spent on leisure activities, and the type of graduate school attended were significant in predicting the stress levels of black graduate students.

The only predictor of stress levels for Hispanic graduate students was the presence or absence of children. The reported stress levels for Hispanic students without children was significantly higher than the stress levels of those Hispanic graduate students who had children.

Gender was the only variable considered significant in predicting levels of stress among white graduate students. The mean scores for white female graduate students was slightly higher than the mean scores for white male graduate students.

Summary

The findings of this study appear to support the contention that the environmental perceptions do not differ significantly for black, Hispanic, and white graduate students. The results of this study, however, indicate that there are significant differences among the levels of stress experienced by minority graduate students. While Hispanic graduate students seemed to have little difficulty reporting higher levels of stress, black graduate students were very conservative in reporting stress levels.

Although environmental perception and stress scores indicated a lack of relationship between these two entities for the total group, the results of findings for individual ethnic groups indicate that this relationship is different when the scores of individual groups are analyzed separately. This finding indicates the need for further study and for the development of a more integrated instrument for examining these two variables. It is very difficult to examine the cause and the effect within the same instrument.

The type of graduate school attended was the single most significant variable for predicting the environmental perceptions of graduate students from different ethnic groups. Although isolated demographic variables were significant in predicting environmental perceptions for the minority graduate students in this study, these conditions tended not to be important in predicting environmental perceptions for majority graduate students.

Results of this study show that demographic variables are better for predicting levels of stress than for predicting environmental perceptions. While the type of graduate school attended is a good indicator of stress levels for graduate students, gender and the amount of time spent on leisure activities are also important predictors of stress levels for graduate students. Stress levels tend to be easier to predict for female graduate students, students who spend less than three hours a week on leisure activities, and graduate students who attend the University of South Florida.

It should be noted that this study has several limitations. The results of this study may only be generalizable to graduate schools of similar size, locations, and ethnic student populations. These results may also be limited to state-supported graduate schools with similar residential and environmental characteristics. The self-report nature of the instrument may be subject to the biases of individual

graduate students and limited to each participant's desire and ability to answer each item truthfully and accurately.

CHAPTER V
SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This chapter includes a summary of the study, conclusions drawn from the analyses of the five research questions, implications of the findings, and recommendations for future study.

Summary

The purpose of this study was to investigate the environmental perceptions, stress levels, and demographic conditions affecting black, Hispanic, and white graduate students on two university campuses. The demographic variables examined in this study were age, gender, marital status, the number of semesters spent in graduate school, and the amount of time spent on leisure activities. The problem statement, purpose of the study, need for the study, significance of the problem, definition of terms, and organization of the study were presented in Chapter I.

Chapter II includes an overview of the characteristics of graduate students and literature related to the study of college and graduate school environments. The areas discussed in Chapter II were theoretical models, measurement techniques, characteristics of college environments,

characteristics of graduate students, graduate student satisfaction, minority student environments, models of stress, and stress and environment interaction.

The research questions, population and sample, instruments, procedures, and analyses of data were described in Chapter III. The results of the study and a discussion of the results are reported in Chapter IV.

This study was designed to answer the following research questions:

1. What are the differences among black, Hispanic, and white graduate students' perceptions of their graduate school environments?

2. What are the differences among black, Hispanic, and white graduate students' levels of stress?

3. What is the relationship between environmental perceptions and stress levels of black, Hispanic, and white graduate students?

4. What is the relationship between environmental perception scores and the set of variables (age, gender, marital status, semesters in graduate school, time spent on leisure activities, or type of graduate school attended) for black, Hispanic, and white graduate students?

5. What is the relationship between stress scores and the set of variables (age, gender, marital status, semesters in graduate school, time spent on leisure activities, or type of graduate school attended) for black, Hispanic, and white graduate students?

Participants for this study were randomly selected by computer from the groups of full-time black, Hispanic, and white graduate students registered at the University of Florida and the University of South Florida during the

spring of 1989. Survey instruments mailed to 751 masters and doctoral level students contained a demographic survey, The Graduate Environment Survey, and the Strain Questionnaire, a letter of explanation and a self-addressed stamped envelope.

The Graduate Environment Survey was adopted from items used on the College and University Scales (CUES) and was validated using a group of University of Florida graduate students. The reliability of the survey was established using a test-retest method involving a class of counselor education graduate students at the University of Florida. The Strain Questionnaire was previously validated on samples of graduate level college students. The Demographic Questionnaire was designed to include the variables of interest in questions four and five. The identity of respondents was protected by the use of code numbers in place of names.

Several statistical analyses were performed to answer the five research questions. ANOVA was used to investigate differences among environmental perceptions of black, Hispanic, and white graduate students. The significance level of .008 was set for this analysis to account for the number of times the independent variable, ethnicity, would be analyzed across the six dependent scales of the Graduate Environment Survey. The significance level of .0125 was set for the ANOVA used to examine stress levels among black, Hispanic, and white graduate students. The significance

level was established to account for four different analyses using the same independent variable.

A Pearson correlation was used to determine the degree of relationship between environmental perception scores and stress level scores for black, Hispanic, and white graduate students. The significance level was set at .05. Regression models were used to predict environmental perceptions and stress levels from the demographic characteristics of graduate students. The significance level for both models was set at .05.

Results of the analyses revealed that environmental perceptions were not significantly different for black, Hispanic, and white graduate students. Students tended to perceive their graduate environment as being in the middle of the scale used to assess student perceptions. Ethnic groups reported different levels of stress with Hispanic graduate students reporting the highest levels of stress and black graduate students reporting the lowest levels of stress among ethnic groups.

Analysis of the scores on the Graduate Environment Survey and scores on the Strain Questionnaire revealed that there was no relationship between environmental perception scores and stress level scores regardless of the ethnicity of graduate students. However, when the correlation was analyzed within the graduate schools, there was a

significant relationship among white graduate student scores at the University of Florida.

The type of graduate school attended was considered significant for predicting environmental perceptions for students from all ethnic groups and from both graduate school populations. However, while the stress levels of black graduate students could be predicted from marital status, leisure time, and type of graduate school attended, the presence or absence of children was the only variable significant for predicting the stress levels of Hispanic graduate students. Gender was significant for predicting the stress levels of white graduate students.

Conclusions

Based on the results of this study, the following conclusions are drawn:

1. Graduate students from different ethnic groups are generally satisfied with their graduate school environments. The black, Hispanic, and white graduate students felt that their graduate environments were responsive to practical needs and reported being satisfied with the amount of emphasis placed on scholarship and propriety. Ethnic groups from both universities also reported satisfaction with the amount of community involvement and awareness present within their graduate environments.

2. Hispanic graduate students view their graduate school experiences as more stressful than other graduate students in the same educational environments. Hispanic graduate students also admit to more behavioral indicators of stress than other graduate students.
3. Black graduate students may be reluctant to report elevated stress levels or to admit that their stress may be related to the graduate environment.
4. White graduate students are more likely to see the relationship between environmental perceptions and levels of stress than other ethnic groups.
5. Knowledge of certain specific demographic characteristics such as marital status, leisure time, and graduate school type is more reliable in predicting the stress levels of black graduate students than for other ethnic groups.
6. Stress level for white graduate students is related to the gender of the graduate student.
7. Environmental perceptions and stress levels for graduate students may be related to the demographic characteristics of graduate school attended.
8. Graduate students are not generally concerned with perceptions of their graduate school environments. Most graduate students give little attention or time to defining the characteristics of their graduate

environments. Instead, graduate students tend to accept environmental climates and conditions at face value rather than seek knowledge about their environments or investigate means to perceive them more positively.

9. Most graduate students tend not to see a relationship between their stress levels and the way their graduate environments are perceived. Graduate students indicate that stress is caused by such conditions as lack of leisure time, marital or family problems, children, financial difficulties, insufficient information, or a lack of information and other resources needed to solve their problems. Graduate students display a sense of responsibility for all of their problems, which is very unlike the relative dependency of undergraduate students.

While student services professionals are extremely responsive to perceptions and stressors that affect undergraduate students, they tend to show far less concern for these same stressors when they affect groups of graduate students. There is a need for more university sponsored programs aimed at decreasing the stress levels and improving the environmental perceptions of all groups of graduate students.

Implications

The results of this study has implications for theory, practice, and training of graduate school personnel. The environmental-press theory developed by Murray (1938) was examined to determine the relationship between student needs and the environmental press operating within the graduate school environment. This theory has been used to explain adjustment of employees to their work environments and the interactional effects between college students' needs and the press of the educational environment. However, little is known about how graduate students characterize their environments or how they respond to the various presses and environmental stressors.

The results of this study will add to the theoretical information available on the environmental perceptions and stress levels of graduate students. The results will also add to the body of student personnel literature available on person-environment-fit models which are rarely examined in the literature. This study will further add to the literature regarding the perceptions and stress levels of minority and majority graduate students.

The results of studies such as this will provide data needed for future research in the study of different types of graduate school environment models as they relate to the adjustment and retention of minority graduate students. This study will add to the literature available on minority

student adjustment to predominantly majority graduate school environments.

Information from such studies as this has implications for training of student personnel professionals and graduate school faculty and staff. Such information can aid graduate school recruiters in better characterizing their graduate environments based on the information regarding those perceptions and stressors found significant for different ethnic groups of graduate students. The information on stress levels of black, Hispanic, and white graduate students could potentially assist counselors, psychologists, faculty members, and student personnel professionals to develop intervention programs for graduate students and their families.

A last implication of this study is that the results suggest strongly the need for the development of a single instrument designed to investigate the interactional effects of environmental variables and stress variables for black, Hispanic, and white graduate students.

Recommendations for Future Research

Based on the results of this study, the following research is suggested:

1. Future research should be conducted to design an instrument specifically for studying the graduate school environment from the graduate student's perspective.

Instruments currently used to examine perceptions of graduate students are generally modifications of surveys which have been validated using undergraduate student subjects. An instrument designed specifically for graduate students would de-emphasize activities and perceptions considered typical for a younger, less experienced age group of students. Such an instrument could be helpful in designing facilities, planning activities, and providing services for different age levels and ethnic groups of graduate students.

2. The literature has suggested that in examining person-environment-fit models, person variables and environment variables should not be investigated in isolation. Therefore, an instrument should be designed to examine person-environment interaction. Such a study would enable graduate students to better understand the interactional affect of the environment and their own personal fit model.

3. A study should be conducted to further investigate the effects of demographic variables on the stress levels of different ethnic groups of graduate students. In this way a more inclusive list of demographic variables could be identified for all ethnic groups. Information from this study could be helpful to professionals planning programs for ethnically different graduate students.

4. Future researchers should consider conducting a study of different types of graduate environments using the perceptions of current minority and majority graduate students to characterize the differences within the environment for future graduate students of their same ethnic group or demographic background.
5. A study should be conducted to measure the stress levels of different graduate student groups who perceive the environment as negative and those who perceive the environment as positive in an effort to further investigate the effects of environmental perceptions on levels of stress.
6. A study should be conducted to investigate the effectiveness of stress instruments which require graduate students to report the occurrence of stressful experiences over a limited period of time and those which require recalling long-term stressful situations. Many of the present stress instruments differ greatly in the amount of time the graduate students are required to recall stressful events. The study could help pinpoint current or past events which were stressful for a particular graduate student or groups of students in an effort to link appropriate stressful events to situations within the graduate environment.

APPENDIX A
DEMOGRAPHIC QUESTIONNAIRE

code # _____

DEMOGRAPHIC QUESTIONNAIRE

Directions: Indicate your responses by placing an (X) on the appropriate line under each question. Please mark only one answer for each question. Write the name of your department on the line below:

(1) What is your ethnic group ?

_____ Black
_____ Hispanic
_____ White

(2) What is your present age ?

_____ 23-27
_____ 28-35
_____ 36 or older

(3) What is your sex ?

_____ male
_____ female

(4) What is your present marital status ?

_____ single
_____ married
_____ divorced

(5) Do you have children ?

_____ yes
_____ no

(6) How long have you attended graduate school ?

_____ one semester
_____ two or more semesters

(7) About how many hours a week do you spend in leisure activity ?

_____ 6 to 8 hours
_____ 3 to 5 hours
_____ less than 3 hours

Graduate Department_____

APPENDIX B
COLLEGE AND UNIVERSITY ENVIRONMENT SCALES (REVISED)
GRADUATE ENVIRONMENT SURVEY*

COLLEGE AND UNIVERSITY ENVIRONMENT SCALES (REVISED)
GRADUATE ENVIRONMENT SURVEY *

Instructions: Please rate on a scale of (1 - 5) how close a statement comes to describing your graduate school or graduate department as <u>you</u> perceive it.

1 = NOT AT ALL 2 = VERY LITTLE 3 = OFTEN

4 = VERY OFTEN 5 = ALMOST ALWAYS

1. ___ My graduate department emphasizes the vocational value of coursework.
2. ___ My graduate school is aware of students' financial concerns.
3. ___ Student leaders are recognized in my department.
4. ___ My campus placement office is effective in placing graduate students.
5. ___ Graduate students are appointed members of important academic committees.
6. ___ Discussions in my classes are typically vigorous and intense.
7. ___ My graduate department quickly drops failing students from classes.
8. ___ Faculty members in my department experiment with new methods of teaching.
9. ___ Students in my department are competitive.
10. ___ Excellent research facilities are available on this campus.
11. ___ Important professors in my department expect to be shown respect.
12. ___ Faculty members are polite and proper in their relations with graduate students.
13. ___ Graduate student groups feel free to invite faculty members to lead special discussions.
14. ___ This graduate school seeks to produce cultivated men and women.

15. ___ The administrators of this university respond positively to concerns of graduate students.

16. ___ Borrowing and sharing of materials is practiced among the students in my department.

17. ___ Experienced graduate students help new students adjust to their departments.

18. ___ Graduate students in my department commonly share their problems.

19. ___ Graduate student groups get together for social activities.

20. ___ The atmosphere of my department is unfriendly.

21. ___ The counseling center plans seminars on the problems of graduate school adjustment.

22. ___ This university offers voluntary graduate courses on marriage and family problems.

23. ___ My graduate department encourages the expression of strong personal beliefs.

24. ___ Graduate students in my department have a sense of responsibility for their roles in contemporary society.

25. ___ Students in my department express feelings of loneliness.

* Adapted from College and University Environment Scales (CUES) second edition by C. Robert Pace, copyright 1969.

APPENDIX C
STRAIN QUESTIONNAIRE

STRAIN QUESTIONNAIRE

Please read the following list and circle the letter that most closely corresponds to how often in the past week you have experienced or felt each of the items listed.

A = Not at all C = 3 or 4 days E = Everyday

B = 1 or 2 days D = 5 or 6 days

1.	Backaches	A	B	C	D	E
2.	Muscle soreness	A	B	C	D	E
3.	Numbness or tingling in body	A	B	C	D	E
4.	Heaviness in arms or legs	A	B	C	D	E
5.	Weakness in body parts	A	B	C	D	E
6.	Tense muscles	A	B	C	D	E
7.	Pain in neck	A	B	C	D	E
8.	Nausea or upset stomach	A	B	C	D	E
9.	Diarrhea or indigestion	A	B	C	D	E
10.	Tight stomach	A	B	C	D	E
11.	Loss of or excessive appetite	A	B	C	D	E
12.	Pain in heart or chest	A	B	C	D	E
13.	Shortness of breath	A	B	C	D	E
14.	Racing heart	A	B	C	D	E
15.	Light headedness	A	B	C	D	E
16.	Headaches	A	B	C	D	E
17.	Hot or cold spells	A	B	C	D	E
18.	Lump in throat	A	B	C	D	E
19.	Dryness of throat and mouth	A	B	C	D	E
20.	Teeth grinding	A	B	C	D	E
21.	Trembling or nervous tics	A	B	C	D	E

22.	Sweating	A	B	C	D	E
23.	Sweaty hands	A	B	C	D	E
24.	Itching	A	B	C	D	E
25.	Cold or warm hands	A	B	C	D	E
26.	Frequent need to urinate	A	B	C	D	E
27.	Spent more time alone	A	B	C	D	E
28.	Irritability	A	B	C	D	E
29.	Impulsive behavior	A	B	C	D	E
30.	Easily startled	A	B	C	D	E
31.	Stuttering/other speech dysfluencies	A	B	C	D	E
32.	Insomnia	A	B	C	D	E
33.	Inability to sit still	A	B	C	D	E
34.	Smoking	A	B	C	D	E
35.	Use of prescription drugs	A	B	C	D	E
36.	Use of alcohol	A	B	C	D	E
37.	Accident proneness	A	B	C	D	E
38.	Believe the world is against you	A	B	C	D	E
39.	Feeling out of control	A	B	C	D	E
40.	Urge to cry or run away	A	B	C	D	E
41.	Feeling of unreality	A	B	C	D	E
42.	Feeling that you are no good	A	B	C	D	E
43.	Inability to concentrate	A	B	C	D	E
44.	Nightmares	A	B	C	D	E
45.	Think things can't get any worse	A	B	C	D	E

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Lefebvre, R.C. & Lawlis, C.F. (1985). A multi-modal questionnaire for stress. Journal of Human Stress, 11, 69-75.

APPENDIX D
COVER LETTER

1638 N.W. 19th Lane
Gainesville, FL 32606

Dear Fellow Graduate Student:

I wish there was some way I could pay you for the assistance I am about to request. However, I am sure that you can understand my financial plight as a fifth-year graduate student. I am therefore enclosing a cup of herbal tea and a stick of gum as a token of my appreciation for just (10) minutes of your valuable time in completing the enclosed survey for my doctoral research.

Many articles have appeared in professional journals concerning graduate student stress. However, these articles have rarely been concerned with graduate students' perceptions of their environments or the relationship of these perceptions to stress. Therefore, little is known about the relationship between perceptions and stress or how this relationship differs across groups and across academic environment.

You are one of a small number of graduate students, from two selected Florida universities, asked to assist in research to better understand graduate student perceptions of their environments and how stress symptoms are experienced by these students. Your name has been randomly selected from a list of students in your graduate institution. Each student's participation is essential to the results of this study. PLEASE complete the questionnaire and return it as soon as possible. A self-addressed, stamped envelope is included for your convenience. Your questionnaire will include an I.D. number to insure confidentiality. Please do not write your name on the questionnaire. Your name will not be associated with your response.

You may receive a summary of the results of this study by writing the words "Results Requested" on the return envelope, along with your address. I will be happy to provide any information or answer any questions about this study. I can be reached at the above address or by calling (904) 392-5960.

Thanks for your help and I hope you enjoyed the "tea break."

Sincerely,

Gerri M. Elie
Principal Investigator

REFERENCES

Allen, W. A. (1981). Black student characteristics experiences and outcomes in the United States system of higher education. Ann Arbor: University of Michigan.

Altbach, P. G. (1970). Commitment and powerlessness on the American campus: The case of the graduate student. Liberal Education, 56, 562-582.

Amir, Y. (1969). Contact hypothesis in ethnic relations. Psychological Bulletin, 11, 319-342.

Appley, M., & Trumbull, R. (Eds.). (1967). Psychological stress in research. Englewood Cliffs, NJ:

Appley, M., & Trumbull, R. (Eds.). (1976). Psychological stress: Issues in research. Englewood Cliffs, NJ:

Astin, A. W. (1965). Who goes where to college? Chicago: Science Research Associates.

Astin, A. W. (1968). The college environment. Washington, DC: American Council on Education.

Astin, A. W. (1977). Four critical years. San Francisco: Jossey-Bass.

Astin, A. W., & Holland, J. L. (1961). The environmental assessment technique (EAT): A way to measure college environments. Journal of Educational Psychology, 52, 308-316.

Axelrod, J., Freedman, M., Hatch, W., Katz, J., & Sanford, N. (1969). Search for relevance. San Francisco: Jossey-Bass.

Baird, L. L. (1969). A study of the role relations of graduate students. Journal of Educational Psychology, 60, 15-21.

Baird, L. L. (1973). Focusing on measures of college environments. College Board Review, 86, 1-3.

Baird, L. L. (1974). Careers and curricula: A report on the activities and views of graduates a year after leaving college. Research Reports, 143, 1-268. Princeton, NJ: Educational Testing Service.

Baird, L. L. (1976). Teaching and the environments for learning in graduate departments of psychology. Professional Psychology, 7(4) 573-578.

Barnett, S. (1982). New brains for old bodies: The impact of emotional and physical stress during the Ph.D. process. In Vartuli, S. (Ed.), The Ph.D. experience (pp. 61-69). New York: Praeger.

Bernard, M. (1988). Leisure-rich and leisure-poor: Leisure lifestyles among young adults. Leisure Sciences 10, 2, New York: Taylor & Francis.

Blackwell, J. E. (1975). Access of black students to graduate and professional schools. Atlanta: Southern Education Foundation.

Bradley, L., & Stewart, M. (1982). The relationship between self-concept and personality development in black college students: A developmental approach. Journal of Non-White Concerns, 10(4), 114-125.

Breneman, D. W. (1975). Graduate school adjustments to the "New Depression" in higher education (Technical Report Number 3). Washington, DC: National Board on Graduate Education.

Carrington, C. H., & Sedlacek, W. E. (1977). Attitudes and characteristics of Black graduate students. Journal of College Student Personnel, 16, 467-471.

Chickering, A. W. (1969). Education and identity. San Francisco: Jossey Bass.

Clark, M. J. (1976). The meaning of quality in graduate and professional educators. In J. Katz & R. T. Hartnett (Eds.), Scholars in the making. Cambridge, MA: Ballinger.

Clifford, B. D. (1977). Personal stress and marital adjustment of married graduate and professional school students (Doctoral dissertation, University of Tennessee, 1977). Dissertation Abstracts International, 37, 4858A.

Cooper, C., & Payne, R. (Eds.). (1978). Stress at work. New York: Wiley.

Cortese, A. J., & Duncan, M. I. (1982, March). The denial of access: Chicanos in higher education. Paper presented at the meeting of the Society for the Study of Social Problems, San Francisco.

Craig, G.J. (1976). Human development. Englewood Cliffs, NJ: Prentice-Hall.

Creager, J. A. (1971). The American graduate student: A normative description. Research Reports, 6, 5. Washington, DC: American Council on Education.

de Armas, C. P., & McDavis, R. J. (1981). White, black and Hispanic students' perception of a community college environment. Journal of College Student Personnel, 22, 337-341.

Endler, N. (1976). The case for person-situation interaction. N. Endler and D. Magnusson (Eds.), The Interactional Psychology and Personality, New York: Wiley.

Endler, N. (1978). The interaction model of anxiety: Some possible implications. In D. Landers, & R. Christina (Eds.), Psychology of motor behavior and sport. (pp. 332-361) Champaign, IL: Human Kinetics.

Erikson, E. (1968). Identity: Youth and crisis. New York: Norton Press.

Everly, G., Feldman, R., & Weiss, S. (1985). Occupational health promotion. New York: Wiley.

Farver, A. S., Sedlacek, W. E., & Brooks, G. C., Jr. (1975). Longitudinal predictors of university grades for blacks and whites. Measurement and Evaluation in Guidance, 1, 243-250.

Feldman, K. A., & Newcomb, T. M. (1969a). The impact of college on students: An analysis of four decades of research. Vol. 1. San Francisco: Jossey-Bass.

Feldman, K.A., & Newcomb, T.W. (1969b). The impact of college on students: Summary tables. San Francisco: Jossey-Bass.

Feldman, S. D. (1973). Escape from the doll's house. New York: McGraw Hill.

Ferguson, G.A. (1976) Statistical analyses in psychology and education. New York, NY: McGraw-Hill.

Field, H., Holley, H. W., & Armenakis, A. A. (1974). Graduate students' satisfaction with graduate education: Intrinsic versus extrinsic factors. Journal of Experimental Psychology, 43, 8-14.

Field, T., McCabe, P., & Schneiderman, N. (1985). Stress and coping. Hillsdale, NJ: Erlbaum Associates.

Fleming, J. (1984). Blacks in college. San Francisco, CA: Jossey-Bass.

Florida Board of Regents. (1987). Annual report. Tallahassee, FL: Florida Department of Higher Education.

Follett, C. V., Andberg, W., & Hendel, D. (1982). Perceptions of the college environment by women and men students. Journal of College Student Personnel, 23(6), 525-531.

Friedman, M., & Roseman, R. (1974). Type A behavior and your heart. New York: Knopf.

Garza, R. T., & Nelson, E. B. (1973). A comparison of Mexican and Anglo-American student perceptions of the university environment. Journal of College Student Personnel, 14, 399-401.

Gibbs, J. T. (1975). Use of mental health services by black students at a predominantly white university: A three year study. American Journal of Orthopsychiatry, 43, 443-445.

Glass, D., & Singer, J. (1972). Urban stress: Experiences on noise and social stressors. New York: Academic Press.

Goodman, J. A. (1972). Institutional racism: The crucible of black racism: The crucible of black racism. In J.A. Banks, & J. Dresden (Ed.), Black students in white schools. Worthington, OH: Charles A. Jones.

Gruver, G. G., & Labadie, S. K. (1975). Marital dissatisfaction among college students. Journal of College Student Personnel, 16, 454-458.

Gunnings, B. B. (1982). Stresses on minority administrators on predominantly white campuses. Minority Voices, 5, 29-35.

Halleck, S. L. (1976). Emotional problems of graduate students. In J. Katz, & R. T. Hartnett (Eds.), Scholars in the making. (pp. 49-84). Cambridge, MA: Ballinger.

Hartnett, R. T. (1976). Environments of advanced learning. In J. Katz, & R.T. Hartnett (Eds.). Scholars in the making (pp. 49-84). Cambridge, MA: Ballinger.

Hartnett, R. T., & Katz, J. (1977). The education of graduate students. Journal of Higher Education, 6, 646-664.

Heiss, A. M. (1970). Challenges to graduate schools. San Francisco: Jossey-Bass.

Helson, H. (1964). Adaptation level theory. New York: Harper.

Higher Education Research Institute. (1982). Final report of the commission on higher education of minorities. Washington, DC: United States Government Printing Office.

Hughes, M. (1988). Challenging boundaries: Weaving the future. Graduate Student Newsletter of the American College Personnel Association. Bloomington, IN: ACPA.

Hunt, C. L. (1975). Alternate patterns of minority group adjustment in the university. Education Forum, 39, 137-147.

Huse, E. (1975). Organization development and change. New York: West.

Jacobs, L. C. (1981). Problems encountered by women and minority students at Indiana University. Indiana Studies in Higher Education, 46, 1-19.

Karl, S., Evans, A., & Schneider, J. (1979). Psychological risk factors in the development of infectious mononucleosis. Psychosomatic Medicine, 41, 445-466.

Kauper, P. (1954). Segregation in public education. University of Michigan Law Review. Ann Arbor: Michigan Law Review Association, 52, 1137-1158.

Keating, J. (1978). Scapegoating the environment: Toward a model of crowding. S. Weiderman, & J. Anderson (Eds.), Priorities for environment design research (pp. 145-152). Washington, DC: Environmental Design Research Association.

Keith, J. A. (1965). The relationship of the congruency of environment press and student need systems to reported personal satisfaction and academic success. (Doctoral dissertation, University of Alabama, 1964.) Dissertation Abstracts International, 25, 7081.

Keller, J., Petrowski, C., & Sherry, D. (1982). Perceptions of the college environment and campus life: The black experience. Journal of Non-White Concerns, 10, 126-132.

Kinkaid, M. (1969). Identity and therapy in the black community. Personnel and Guidance Journal, 47, 884-890.

Landis, H. (1964). Dissonance between student and college variables as related to success and satisfaction. (Doctoral dissertation, Pennsylvania State University, 1963.) Dissertation Abstracts International, 25, 7081.

Lazarus, R. S., & Folkman, S. (1984). Stress appraisal and coping. New York: Springer Publishing Co.

Lazarus, R., & Opton, E. (1966). The study of psychological stress: A summer of theory and formulations and experimental findings. In C. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press.

Lee, D. (1966). The role of attitude in response to environmental stress. Journal of Social Issues, 12, 83-91.

Lefebvre, R. C., & Lawlis, C. F., (1979). A rational approach to medical disorders. Rational Living, 14, 17-22.

Lefebvre, R. C., & Sandford, S. L. (1984). The modulation of stress: analysis of effects in a high-risk psychosocial context. Paper presented at the annual meeting of the Society of Behavioral Medicine, Philadelphia, PA.

Lefebvre, R. C., & Sandford, S. L. (1985). A multi-modal questionnaire for stress. Journal of Human Stress, 11, 69-75.

Lenning, O., & Munday, L. (1974a). Nonintellective correlates of grades, persistence, and academic learning in college: The published literature through the decade of the sixties. Iowa City: American College Testing Program.

Lenning, O., & Munday, L. (1974b) The many faces of college success and their non-intellective correlates: The published literature through the decade of the sixties. Iowa City: American College Testing Program.

Lewin, K. (1938). The conceptual representation and measurement of psychological forces. Durham, NC: Duke University Press.

Lewis, L. H. (1983). Coping with change. Lifelong Learning: The Adult Years, 7, 8-9, 28, 31.

Livingston, M., & Stewart, M. (1987). Minority students on white campuses: Perception is truth. National Association of Student Personnel Administration Journal, 24(3), 39-49.

Lloyd, C. (1980). Life events and depressive disorder reviewed: Events as precipitating factors. Archives of General Psychiatry, 37, 541-548.

Locke, S. (1982). Stress, adaptation and immunity: Studies in humans. General Hospital Psychiatry, 4, 49-58.

Martinez, A., & Sedlacek, W. (1982). Race and sex differences in college student perceptions of the social climate. Counseling Center Research Report 8, 82. College Park: University of Maryland.

McGuire, G. (1973). Mind and emotion. New York: Wiley.

McLaughlin, Mike C. (1985). Graduate school and families: Issues for academic departments and university mental health professionals. Journal of College Student Personnel, 26, 6, 488-491.

Mendoza, P. (1983). Stress and coping behavior of Anglo and Mexican-American university students (Monograph # 8). Los Angeles: University of California, Spanish Speaking Mental Health Research Center.

Minatoya, L. Y., & Sedlacek, W. E. (1983). The SASW: A means to measure environmental sexism. Journal of Non-White Concerns in Personnel and Guidance, 47, 26-30.

Minatoya, L. Y., & Sedlacek, W. E. (1984). Assessing attitudes of white university students toward blacks in a changing context. Journal of Non-White Concerns in Personnel and Guidance, 12, 69-79.

Moos, R.H. (1969). Sources of variance in responses to questionnaires and in behavior. Journal of Abnormal Psychology, 74, 405-412.

Moos, R. H. (1979). Evaluating educational environments. San Francisco: Jossey Bass.

Morris, W. (Ed.) (1980). The American Heritage Dictionary of the English Language. Boston, MA: Houghton Mifflin Co.

Murray, H. A. (1938). Explorations in Personality. New York: Oxford University Press.

Murray, W., & Pettibone, R. (1972). Mexican American and Anglo-American perceptions of a university environment. Paper presented at Rocky Mountain Educational Research Association, Las Cruces, NM.

Nangle, J. E. (1974). A study of graduate student attitudes regarding graduate education at Western Michigan University. Research Report, 143, 1-78. Kalamazoo, MI: Office of Institutional Research.

Olivar, M. A. (1982). Federal higher education policy: The case of Hispanics. Educational Evaluation and Policy Analysis, 4, 301-310.

Pace, C. R. (1963). College and university environment scales: Preliminary technical manual. Princeton, NJ: Educational Testing Service.

Pace, C. R. (1969). College and university environment scales: Technical manual. Princeton, NJ: Educational Testing Service.

Pace, C. R. (1979). College student experiences. Los Angeles: Carnegie Commission on Higher Education.

Pace, C. R., & Stern, G. G. (1958). An approach to the measurement of psychological characteristics of college environments. Journal of Educational Psychology, 49, 269-277.

Pallone, N. J., Hurley, R. B., & Rickard, F. S. (1971). Emphasis in job satisfaction research. Journal of Vocational Behavior, 1, 11-28.

Parker, W. P., & Scott, A. C. (1985). Creating an inviting atmosphere for college students from ethnic minority groups. Journal of College Student Personnel, 26, 82-87.

Patterson, A. M., & Sedlacek, W. E. (1979). Differences among minority student backgrounds and attitudes toward a university and its services. Counseling Center Research Report, 18, 79. College Park: University of Maryland.

Patterson, A. M., Sedlacek, W. E., & Perry, F. W. (1984). Perceptions of blacks and hispanics in two campus environments. Journal of College Student Personnel, 25(6), 513-518.

Perry, F., Jr., & Tucker, A. B. (1981). Organizing the institution to meet the needs of minority and disadvantaged students. College Student Journal, 15, 184-190.

Proshansky, H. (1978). The city and self identity. Environment and Behavior, 10(2), 147-169.

Pruitt, A., & Isaac, P. (1985). Discrimination in recruitment of minority graduate students. The Journal of Negro Education, 54, 4, 526-536.

Ramirez, A., & Soriano, F. (1981). Causal attributions of success and failure among Chicano university students. Hispanic Journal of Behavioral Sciences, 3, 397-407.

Richards, J., & Seligman, R. (1969). Measurement of graduate school environments. ERIC Document Reproduction Service No. ED. 028, 726.

Richards, J. M., Seligman, R., & Jones, P. K. (1970). Faculty and curriculum as measures of college environment. Journal of Psychology, 61, 324-330.

Riley, V. (1981). Biobehavioral factors in animal work on tumorigenesis. In Weiss, S. M., Herd, & Fox, B. H. (Eds.). Perspectives in behavioral medicine. New York: Academic Press.

Rimmert, S. M., Lammert, M., & McClain, P. (1982). An assessment of graduate student needs. College Student Journal, 16, 30-37.

Rubio, C. T., & Lubin, B. (1986). College student mental health: A person-environment interactional analysis. Journal of Clinical Psychology, 42(1), 205-212.

Rudd, E. (1985). A new look at graduate failure. In Graduate Failure. (pp. 49-62) Guilford, Surrey: SRHE & NFER Nelson.

Sandeen, A. (1976). Undergraduate education: Conflict and change. Lexington, MA: D.C. Heath.

Schlef, A. (1983). What higher education does (and doesn't do) for Hispanics. CASE Currents, 9, 14-17.

Selye, H. (1976). Stress in health and disease. Boston, MA: Butterworth, Co.

Selye, H. (1980). The stress concept today. In Kutash, I., Schlesinger, L., & Associates (Eds.), Handbook on stress and anxiety (p. 27). San Francisco, CA: Jossey Bass.

Shaw, Susan (1985). Gender and leisure: Inequality in the distribution of leisure time. Journal of Leisure Research, 17, 4, pp. 266-282. Association.

Starr, A. M., Betz, E. L., & Menne, J. W. (1972). Differences in college student satisfaction, academic dropouts, non-academic dropouts, and non-dropouts. Journal of Counseling Psychology, 19, 318-322.

Stern, G. (1970). People in context. New York: Wiley.

Stokols, D. (1976). The experience of crowding in primary and secondary environments. Environment and Behavior, 8, 49-86.

Stupp, L. H. (1982). The relationship between graduate student adjustment to the college environment and locus of control. (Doctoral dissertation, United States International University, 1982.) Dissertation Abstracts International, 43, 10.

Tracey, T. J., & Sherry, P. (1984). College student distress as a function of person-environment fit. Journal of College Student Personnel, 25, 436-442.

University of Florida. (1987). Graduate student demographics by major and college. Gainesville FL: University of Florida Graduate School.

University of Florida. (1987-88). Graduate school roster. Gainesville, FL: University of Florida Graduate School.

University of Florida. (1988-89). University of Florida Housing Office report. Gainesville, FL: University of Florida Housing Office.

University of Florida. (1988-89). Fact sheet. Gainesville, FL: Office of the Graduate School.

University of Florida. (1988-89). Graduate school catalog. Gainesville, FL: Office of the Graduate School.

University of South Florida. (1987). Graduate student demographic report. Tampa, FL: University of South Florida Graduate School.

University of South Florida. (1987-88). Graduate school catalog. Tampa, FL: Office of the Graduate School.

University of South Florida. (1987-88). Graduate school roster. Tampa, FL: University of South Florida Graduate School.

U.S. Department of Commerce, Bureau of the Census. (1983). Conditions of Hispanics in America today. Washington, DC: U.S. Government Printing Office.

Valdez, R, (1982). First year doctoral students and stress. College Student Journal, 15, 30-37.

Webster, D. W., & Sedlacek, W. E. (1982). The differential impact of a university student union on campus subgroups. National Association of Student Personnel Association Journal, 19(2), 48-51.

Webster, D. W., Sedlacek, W. E., & Miyares, J. (1979). A comparison of problems perceived by minority and white university students. Journal of College Student Personnel, 20, 165-173.

Williamson, E. G. (1961). Student personnel services in colleges and schools. New York: McGraw-Hill.

Wilson, R. (Ed.). (1982). Race and equity in higher education. New York: Macmillan.

Winkworth, J., Seiker, D., Bailiff, N. L., & Gaines, B. N. (1974). Graduate/professional student perceptions. Research Reports, 4, 2-14.

Winston, R. B. (1973). Student and faculty perceptions of graduate school environments. (Doctoral dissertation, University of Georgia, 1973.) Dissertation Abstracts International, 9, 34a.

Winston, R. B. (1976). Graduate school environments: Expectations and perceptions. Journal of College Student Personnel, 17(1), 43-48.

Witt, P., & Handal, P. (1984). Person-environment fit: Is satisfaction predicted by congruency, environment or personality. Journal of College Student Personnel, 25, 6, 503-508.

BIOGRAPHICAL SKETCH

Gerri Moore Elie was born in New Orleans, Louisiana, on December 14, 1934, to Limual and Lucille Crump Moore. She attended the public schools of Jefferson and Orleans Parishes graduating as salutatorian from L. B. Landry High School in 1952. She then attended Dillard University on a full-time scholarship and graduated magna cum laude with a Bachelor of Arts degree in Education in 1956. Following graduation, she taught school for the Orleans school board for ten years.

Following her tenure as a teacher, Gerri worked as an elementary school consultant for two years during which she received pre-school and kindergarten certification from Xavier University of New Orleans. In 1968, she returned to graduate school at Loyola University and received a Masters Degree in Guidance and Counseling with honors.

Gerri worked as a junior high school guidance counselor for four years and returned to graduate school in 1973 to become certified in school administration and special education at Tulane University. Following certification, she worked as a junior high school assistant principal and received the principalship of Lusher Elementary School in 1974. During her tenure at Lusher Elementary School, she

conducted a self-study that led to the accreditation of the school by the Southern Association of Schools and Colleges. She was also successful in having the school renamed The Lusher Alternative School, and opening it to a restricted city-wide attendance district.

In 1977, Gerri became the director of the Emergency School Aide Act for Orleans Parish Schools from which she retired in May, 1979. After retirement she became Administrative Assistant to the Mayor for the City of New Orleans in the Division of Human Resources. This appointment was followed by a position as South Central sales consultant for the Prescription Learning Corporation. In 1981, she joined the staff of Dillard University as the Director of Title III, Strengthening Developing Institutions Program.

After spending three years at Dillard, where she also served as advisor to foreign students, she accepted a four-year fellowship from the McKnight Programs in Higher Education in 1984, to pursue a doctoral degree at the University of Florida. During her tenure at UF, she has worked as a coordinator of student housing programs, a graduate assistant, and an instructor for the Department of Counselor Education. Gerri is presently employed as a case coordinator for the Child Protection Team of Alachua County.

Gerri is the divorced mother of two grown children, Migel Elizabeth Elie, M.D. and Lolis Eric Elie, a journalist and author. She is a member of Bethany United Methodist

Church in New Orleans, Louisiana, and an associate member of Mount Pleasant United Methodist Church in Gainesville, Florida.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Woodrow M. Parker, Chair
Professor of Counselor Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Gerardo Gonzalez
Associate Professor of Counselor Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Carl A. Sandeen
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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